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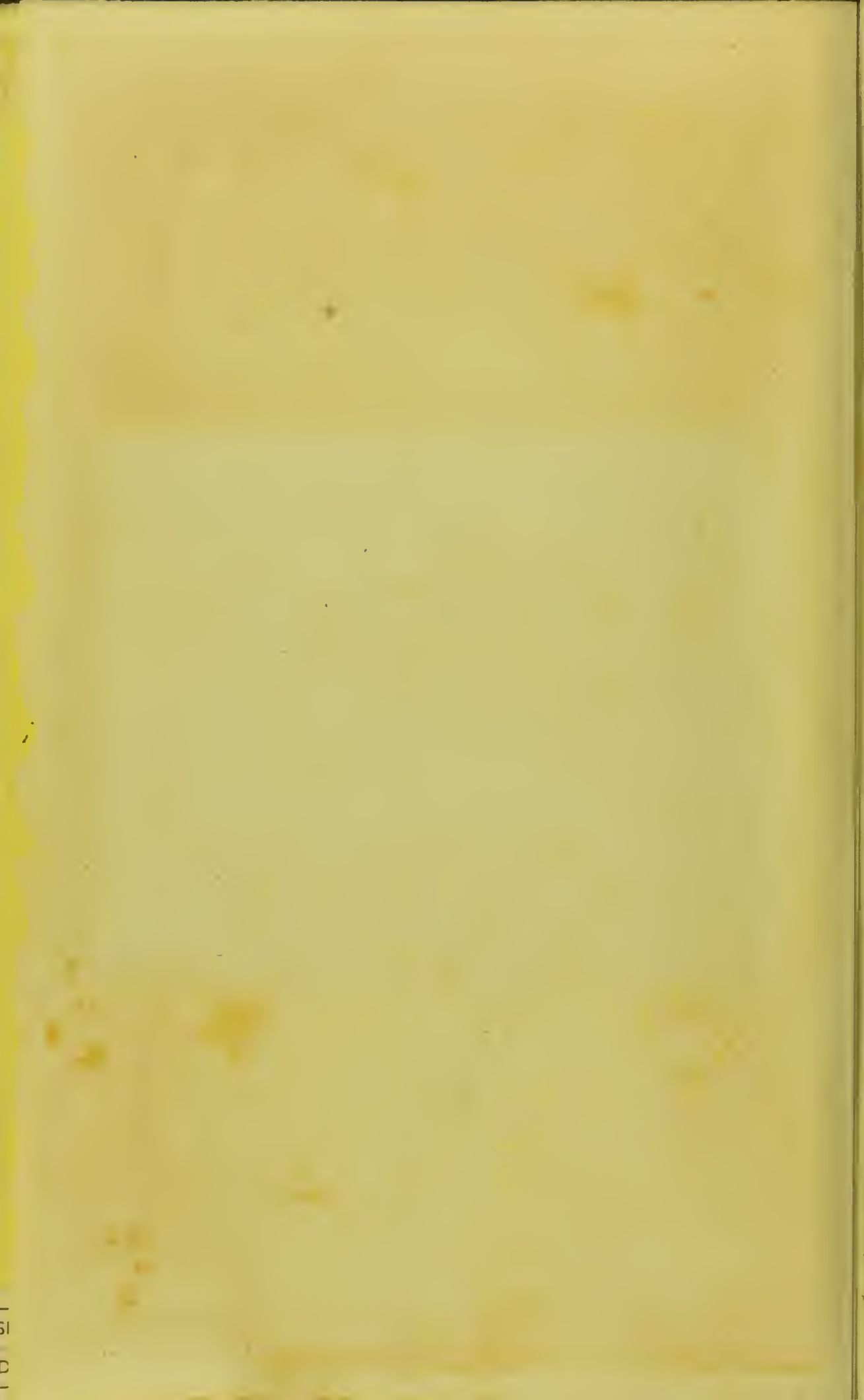
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ON THE PRINCIPLES OF

ÆSTHETIC MEDICINE,

OR THE

NATURAL USE OF SENSATION AND DESIRE

IN THE

Maintenance of Health and the Treatment of Disease,

AS DEMONSTRATED BY INDUCTION FROM THE

COMMON FACTS OF LIFE.

BY

JOSEPH PEEL CATLOW, M.R.C.S.

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Dedication.

TO MRS MARY HUDSON,

DEAR MADAM,

NONE of those who have, hitherto, honored me with their respect and confidence, and to whom I now tender my most cordial thanks, will dispute your more especial claim to the offering of these first fruits of a study of life, in which you have, for many years, been deeply interested, with the maturing of which you have been variously and importantly connected, and which personal and domestic experience of their value in the most trying conditions of life and death has long made you anxious to have preserved for the general and permanent benefit of mankind.

Nor do I fear, by thus distinguishing you, to do injustice to the Medical Profession, or to my own sex, as I know no one who has better or more uniformly appreciated the doctrine and practice which I would inculcate, or the circumstances of self-denial in which they have been developed and enforced, or the motives which have deferred and finally determined the present publication.

It is, therefore, with unmingled satisfaction and pleasure that I dedicate these first pages to one who is endeared to me as a perseveringly and gratefully confiding patient, a constant and highly valued friend and advocate, and a faithful lover of truth through evil and through good report.

Hoping that you may, yet for many years, continue, in improving health and strength, to realize and exemplify, in the bosom of your family, and among your admiring friends, the effects of an intelligent and persevering adherence to correct and comprehensive principles, and that I may never forfeit the affectionate regard with which you have undeviatingly favored me, in association with them,

I remain, dear Madam,

Your ever gratefully attached friend,

THE AUTHOR.

It is to be regretted that the sudden death of the Author
occasioned the omission of the side notes in part of the manuscript ;
and a further elucidation of those principles he has demonstrated.

Manchester,

January, 1867.

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THE ORGANIC PRINCIPLES
OF
ÆSTHETIC,
Orexie, and Logical Therapeutics and Biology;
OR, THE
NATURAL USE OF THE EXTERNAL SENSES, THE PHYSICAL APPETITES,
THE INTELLECTUAL FACULTIES, AND THE SOCIAL, MORAL,
AND RELIGIOUS AFFECTIONS, IN THE APPROPRIATION
OF CONGENIAL IMPRESSIONS AND THE
REGULATION OF ART,
FOR THE
DEVELOPEMENT AND MAINTENANCE OF LIFE AND MIND, THE
PROMOTION OF HEALTH, AND THE TREATMENT OF DISEASE.

Part I.—Induction from the Common Facts of Life.

BY
JOSEPH PEEL CATLOW, M.R.C.S., EDIN.

Ἡ φύσις ἐσώχασται ἐκάστου οὐδέν τι ἔλασσον της ἀπολήξεως, ἢ της ἀρχῆς
τε καὶ διεξαγωγῆς. (Marc. Antonin., lib. 8, § 16.)

Introduction.



1. As an apology for a new and independent investigation of the fundamental principles of Hygienic and Medical art, it shall suffice me, at present, merely to appeal, in so many terms, to the evident and justifiable general sense of the inadequacy and uncertainty of all that are actually more or less recognised; to the fluctuations, or, to use another metaphor, the revolutions and counter-revolutions, that have so remarkably characterized the history of medical doctrine and practice in all past ages; and to the incongruous and diametrically opposite opinions that influence and dishonour this art, in its most directly practical applications, at the present day.

Apology for a new investigation of Hygienic and Medical Art.

2. I pass thus summarily over preceding and prevalent error, because it can be accurately estimated and distinguished, only as we discover and develope truth, whether native or amalgamated with it; and moreover in order to avoid, as far as in me lies, the fault, too common and too fatal to innovators, of allowing their zeal in the indiscriminate condemnation of received opinions and practices to surpass their care and industry in combining, correcting, and

Reasons for a direct Induction

maturing those which they would substitute in their place.

The more or less direct introduction of light is the readiest, the safest, and the most efficient method of dispelling darkness. (Note 1.)

from the com-
mon facts of
life.

3. I shall therefore endeavour to demonstrate the fundamental and pregnant axioms of hygienic and medical doctrine, by a direct induction from natural facts; and I propose to do this in the first place, from the common facts of life; inasmuch as they will prevent the necessity of referring, except merely for the sake of illustration, to private observations or experiments, and of imposing or acknowledging any personal or partial authority whatever in their favour: these being in my humble opinion, the only safe and satisfactory conditions of an induction so vitally and diffusively important as that of a fundamental principle, to which we may rationally hope to subordinate all the more particular observations and experiments that are to form the superstructure of hygienic and therapeutic science.

4. Such an induction then, being at present my simple object, I shall allude to particular observations, and to the defects and errors of received or exploded systems of medicine, only as they may serve to illustrate and exemplify the common facts to which I shall successively appeal.

Natural basis
of Art.

5. All art is essentially based on the observation of nature; and not only so, but on the observation particularly of those groups of natural objects and phenomena to which each art more especially refers

in its operations and results ; groups, including equally its objects or purposes, its subjects and its instruments.

6. In other words, each art is an appropriate aggregate of natural facts by which it is essentially distinguished from all other arts. (Note 2.)

Each Art an aggregate of natural facts, subjected to the perception and will of the artist ; which they develope.

7. The aggregate which thus forms the basis of an art is strictly a natural concrete, or one of the many aggregates which, together, make up, as may be said, the grand composite system of nature ; and which, severally, assume the character of arts only as they are, severally, subjected to the perception and volition of the intelligent and expert artist.

8. The relations or circumstances of such perception and volition are, therefore, themselves, necessary elements in the artificial aggregate, without which, the other elements would be vain, and art would have no purpose or reality. Subjection, however, thus stated, expresses only the one-sided view which the artist may be said naturally to take when he is making his combinations of *known* elements : and it is only when he finds that he has misinterpreted some of these elements, and is consequently baffled in his combinations ; that he begins to discover that his will and purpose must be conformed to *them* ; it being, indeed, only by these elements, that they can be developed and maintained in his mind.

9. The mental conception of the purpose of an art is therefore, only the resultant of a certain series of natural facts and relations ; and the exact formula or principle of an art is realized only when this concep-

tion is normally generated ; that is, when the purpose is appropriately suggested by, and therefore, strictly compatible with, a certain series of natural powers, susceptibilities, and processes.

Art, in fine, is not opposed to nature, nor added to nature, nor an imitation of nature, but one of the phases or developements of nature herself.

The sufficiency
of natural facts
for the combi-
nations of art.

10. Natural facts and laws are, therefore, sufficient for the instruction of any art, when they are accurately and completely defined and comprehended ; and any contrary supposition can arise only from too narrow an estimate of such facts and laws, or from a generally false idea of the facts or products of art, considered as essentially distinct from those of nature ; the intervention of an intelligent and expert agent or minister of nature, forsooth, being deemed an extra-natural phenomenon !

Especially in
the art of Me-
dicine ; which
relates to typi-
cal forms of
life.

11. The sufficiency of natural facts and laws for the instruction of art might seem in no art more easy to recognize than in that of medicine, which so manifestly refers only to the maintenance of life in the typical forms in which, in a popular sense, it may be said to exist independently of art and antecedently to it, and which it cannot enter into the purpose of art to change ; and yet, it may be safely affirmed, that in no art whatever has this sufficiency of natural facts and laws been, in practice, more vaguely asserted or more entirely repudiated. (Note 3.)

CHAPTER I.

ON THE NECESSITY OF A NATURAL PRINCIPLE OF THERAPEUTICS AND BIOLOGY.

Section I.—On the abuse of the abstract notion of life.

12. The art of Medicine, therefore, can be founded only on the observation of the nature or specific conditions of animal life ; or rather, on the natural facts that are appreciable in relation to it ; and the nature, or specific conditions, or natural history, so to speak, of man, must, in particular, form the basis of instruction in that branch of the art which, as referring to man, we propose more especially to consider.

Medicine founded on the natural history of man.

13. What particular part of the natural history of man is more especially adapted to our present purpose will appear as we proceed ; but it may, meantime, be obviously enough suggested that, as all art operates by intermediate means, or by virtue of certain relations of things to each other, medical art cannot be advantageously instructed by studying separately man and the things that affect his being, or either exclusively.

Man and external agents to be studied conjointly.

14. Indeed, the first common fact that presents itself when we attempt to investigate the nature of animal life is that it is known only by its peculiar relations to things extrinsic to itself.

The first common fact of life, that it is known only by its relations to extrinsic things

15. Life is not, in itself, cognizable by any of our senses; having, in itself, "no form nor comeliness"; and the term life is only a convenient expression for the abstract or general idea which we gain from the observation of these relations in all their appreciable varieties: these relations being the only phenomena, or evidences of life. In other words, life is known, to use a common expression, only as a series of functions or acts.

Life known only in connexion with organization.

16. We know life, moreover, only as it is associated with *organization or body*; and we gain the idea of such an association, or in other words, of the essential distinctness of life from organization only by the observation of the varied forms in which it is embodied.

Origin of the abstract notion of life in the different forms of its organization.

17. We cannot avoid considering that to be essentially distinct from body which we observe to animate so many different forms of body; or rather, we come to the conclusion that the phenomena of life depend on some distinct principle that is essentially independent of organization only from observing the infinite variety of forms which living bodies present.

18. All these forms are, in fact, characterised and distinguished from dead matter, however compounded and curiously arranged its elements or parts may be, by an analogous series of mutual relations to external things; or, in other words, by analogous functions or acts; which are easily determinable in the aggregate, though the philosopher finds greater difficulty when he considers them individually.

Natural origin of Van Hel-

19. Notwithstanding, however, the notion thus

gained, of life, as independent of organization, it is still apparent that organization is necessary for the manifestation of its external relations, or, in other words, of its functions or acts: and hence, forgetting that as we know life only by its external relations, so, without organization, we could not have gained our first notion of it at all, we are impelled to conceive, with Van Helmont, of the capacity to organize a body for itself, as intrinsic in the principle of life: though we may, perhaps, abstain from following him in his equally natural and legitimate speculations, if I may be allowed for a moment so to term them, on the particular adaptation of each organized body to the particular modification of the vital principle, or to the particular *archeus*, as he terms it, that inhabits it.

mont's notion
of the *archeus*,
as the cause of
organization.

Nor let it be imagined that we escape entirely from this imperative conception of Van Helmont's, however much some may affect to despise it, by referring the formation of organs, whether directly or indirectly, to a higher cause, the intelligent source of life itself. We are still bound to the notion of the special adaptation of the organs to the *archeus* or inhabiting spirit; nor will this notion, in either of these modes, be found materially to differ, in its practical bearings, from that of the natural or germinal source of forms, adopted by Democritus and Hippocrates, and which will appear to be the hypothetical basis, not only of the ancient, but also of the modern estimation of the operations of nature and art.

The transition was natural and easy, from the conception of life, as a distinct essence, or an originating

Origin of Hip-
pocrates' no-
tion of Nature
regulating life.

germ, by its intrinsic power, organizing or evolving for itself a body, to that of its maintaining and regulating all the motions, changes, and relations of the body, by the same intrinsic and independent power.

Organized life, or in the language of Hippocrates, *Nature*, in determining or discovering, as he said, *her own issues*, was, therefore, conceived rather to act, through the medium of the organs, on the objects of external nature, than to be acted upon or influenced by them.

Nay, there is reason to suppose that Hippocrates carried this abstract notion of life so far, as to conceive of a separate offset from the general spirit that regulates the whole of one organized body, actuating each particular organ or set of organs, and separately determining its own issues, or the vital action of the organs of its special care.

Notion of intuitive intelligence attached to Nature or the vital principle.

The notion of *intelligence*, drawn from the analogous operation of the conscious and designing mind, though it was distinguished as intuitive and untaught, was, therefore, unavoidably attached to that of the intrinsic power of life: and whether this power be termed *φύσις* as by Hippocrates; or *archæus*, or *anima*, as successively, by Paracelsus, Van Helmont, and Stahl; or *nature*, as by more modern writers; and however differently, in some respects, it may be regarded, under these various names, it is impossible thus entirely and habitually to abstract it as a subject of thought, without unconsciously treating it as a distinct entity or substance, and conceiving it to be subject to all the accidents of a conscious being.

Accordingly, we find, down from Hippocrates to Stahl, not to speak at present of later times, coincident assertions or assumptions, on the one hand, of the all-sufficient and intrinsic power of nature or life to maintain the actions of the living body, and on the other hand, of the frequent failures and aberrations of this power, and its need of the assistance and correction of art.

Contradictions concerning the power nature in the living body.

But, thus, and from the abstract notion of life thus abused, as all abstract notions are too apt to be, we realize the absurdity of a supposed principle which forms and regulates an organized body, of the mechanism of which, it must, therefore, be intimately conscious, or to which, to translate the expression, it must be closely and accurately adapted, assisted and corrected by another, an extraneous principle, that is not at all similarly related to the living body; and of which our only possible conception is drawn from the very arts or results of the supposed vital principle itself.

Absurdity of the notion of art assisting nature.

Now, if there be any truth in the conception of the vital principle or nature maintaining and regulating the forms and actions of living organs, (a conception from which, I repeat, we can by no means escape,) the supposition of some other power or principle to aid and correct it can arise, in this instance, as we stated of all art, only from an inadequate knowledge of the methods and the extent of operation of the vital principle itself; and the results of what we call art, must, in this instance, as in all others, be strictly imputable to the same vital principle; though our

All the results of art imputable to nature adequately defined.

limited knowledge of its operations may preclude us from making such an acknowledgment.

Art refers to the regulation of vital phenomena.

All that we know of life refers, as already observed, to its external relations and functional acts or phenomena: and all that art can be supposed to do in assisting or correcting nature, must refer to their regulation.

Difficulty of determining the province of art.

But, the difficulty at once arises, to determine, at any moment, and especially, in the strange and complicated circumstances of disease, whether nature is sufficient for the occasion, or whether, on the other hand, she requires assistance: a problem, the more difficult to solve, from the fact of the inadequacy of our knowledge referring, not only to the power of nature, but to her fixed purposes and methods; or, in more philosophical and less mythical language, to the subordinated results of organic mechanism.

Doctrine of critical days useful in lessening impatience and injurious interference.

Hippocrates bent all the energies of his practical mind to the solution of this difficult problem; and we have, as the fruit of his great labours on this subject, the developement of the doctrine of critical days; a doctrine, essentially founded on the general periodicity of nature's acts and purposes, or of organic tendencies and results; and which, among other of its benefits, very advantageously lessened the impatience, both of the physician and the sick man, and therefore, the injuriously indiscriminate interference of presumptuous art.

And it would have been well for mankind, and conducive to the dignity and utility of medical art, if the legitimate effects of this doctrine had at all times been

realized: for it would, even alone, have sufficed to prevent, on the one hand, the changing follies of the schools, and the no less unstable absurdities which they have unintentionally, but very naturally, caused to be easily diffused among the vulgar, and which have very efficiently conspired with them to render the medical art and profession, in our days, a by-word of contempt.

But, the hitherto ascertained elements of this doctrine, though sufficient to indicate the reality of a general law, are not sufficiently predicable or appreciable in each individual case, to form an exclusive guide for the direct and active interference of art in the treatment of disease; or to supply an available basis for a natural therapeutic principle; more especially, as they indicate only results, not the means of promoting or attaining them.

Not practically applicable.

Hippocrates does not seem indeed to have considered the laws of critical days in fever as a part of the general law of periodicity that regulates life also in health; and hence, he regarded the concoction and expulsion of the morbid humors as an operation essentially peculiar to the state of disease, nay even to the condition of acute disease, to the exception of chronic, on which operation he deemed nature to be, at the time, so exclusively intent as to be unable to execute her ordinary functions. Digestion and nutrition, therefore, instead of being modified for the occasion, as the natural means of cure, required, as he conceived, and as appearances might even seem to warrant, to be suspended, as well as the excretory

Hippocrates' partial notion of critical days

discharges, except at the particular outlet and at the particular time critically determined.

Consequent
expectant cha-
racter of Hip-
pocrates' prac-
tice,

Hippocrates' treatment of disease, therefore, notwithstanding the perhaps unparalleled industry and acuteness of his observation, and the eminently practical character of his mind and habits, was, of necessity, principally distinguished by caution, inaction, and the prohibition even of the natural agents, without which the organic tendencies and results cannot be adequately, if at all, realized; though it must be confessed to his credit, that he avoided the extremes, in the latter respect, of some of his predecessors and contemporaries.

He was systematically and reasonably afraid to act as others did, lest he should injuriously interfere with nature's processes instead of promoting them to advantage, because he could not, from the very nature of things, in spite of all his careful attention, determine them with exactness, either as to manner or time; because he had comparatively few medicines, and of a less manageable character than those with which the Arabian physicians first supplied us; and finally, because the radical error, before alluded to, was, of itself, sufficient to prevent him discovering the natural means of promoting the processes or changes which he so imperfectly anticipated.

In fact, he looked to the intrinsic power of nature, or life, to work out what he called the crisis or issue of the noxious matter; not supposing that she required any aid from without, except when she was too feeble, or when she had, as it were, unwittingly, got out

of the track, which his elaborate and ingenious observation of her ordinary methods had made him presume to chalk out and anticipate for her.

While, therefore, virtually and avowedly teaching a complete reliance on the powers of nature, and urging the danger of thwarting or interrupting her operations, he was constantly proving, even in his mild and cautious practice, his distrust of them, and not seldom, even resisted, while he thought to aid them. and its inconsistency.

He stood in a similar relation to nature with that of the anxious invalid to his physician: when she was apparently and easily successful, he had confidence in her; but, when difficulties and obstacles made her course more circuitous and equivocal, he distrusted her unaided powers. He admired her wisdom and order; but he regarded them as exclusively innate, intrinsic, or untaught, and therefore, by a fatal error, rejected all indications that appeared to originate with the mind: an error which has been propagated to our own times, and which has not yet been corrected, even by those who have repudiated the ancient notion of the entire distinctness of the intelligent mind, the *vous* or *animus*, from the principle of animal life, the *ψυχή* or *anima*.

I scarcely need observe to those who are acquainted with the writings of this great father of ancient medicine, that the original defects in the principle of his observations, thus noticed, may be considered, at least in part, to have caused him to distrust nature almost entirely in all the forms of chronic disease; in which, nevertheless, periodical and critical changes are as real

Nature trusted
to only in acute
disease.

as in fever itself; though the intentness of nature is not so distinct nor so apparently exclusive; a fact, the physiological and practical value of which will be better understood as we proceed.

And, in this, as we find, Sydenham, the father of modern medicine, and the reviver of the Hippocratic method, most remarkably copied him; only adding, on his own part, a quaintly pious reason for the supposed incapacity of nature in such disease, viz. that we bring it upon ourselves, while acute disease is mostly caused by the Divine Being! A striking lesson of caution for all who are too apt inconsiderately to palm their own folly on the wisdom of the Deity! A lesson, moreover, which, as I may anticipate, Sydenham might not have read us, if he had more deeply studied the relation of sense and appetite to the maintenance of life, and the manner in which they are affected in chronic and acute disease respectively!

Sydenham's
quaint reason
for this.

Cause of the
failure of Na-
tural Medicine

It is, indeed, curiously instructive to observe how similar was the fate of natural medicine in the hands of these great men and their followers; and how its failure and complete repudiation depended (as it has also, after every fresh attempt to revive it, and as it must for ever do, if an enduring rescue be not provided) on the same defect in its principle, viz. the supposition that nature works the requisite changes in the elimination of disease solely by her own intrinsic power and intelligence—a supposition contrary to all common observation, and originating in the abuse of the abstract idea of life we have alluded to.

We need not, then, be surprized that the system of natural medicine has repeatedly fallen from so narrow and insecure a basis; the instability of which may be somewhat estimated if we consider the absurdity that rose upon it, of classing together, as non-naturals, all the external agents which are absolutely necessary for life; the very air that we breathe, and the bread that we eat; while the vital acts which cannot be exercised an instant without them, and which constitute the prominent phenomena of life, such as respiration, digestion, and secretion, were styled the natural supports of life!

Absurd distinction of naturals and non-naturals.

Accordingly, even the first masters of natural medicine, including Hippocrates himself, have always acted inconsistently with their avowed principles, and have given the first example of distrust of the powers of nature; which has soon caused their followers, professedly, however impotently, to repudiate her altogether!

Final distrust and repudiation of Nature.

There is, indeed, scarcely a practicable medium between a comprehensive, entire confidence in the powers of nature, and an entire pretence of neglecting, and even reprobating them, in the treatment of disease, not to say, in the common conduct of life. (Note 4.)

No practicable medium between distrust and confidence in Nature.

Nor, shall I endeavour, at present, to settle the question, whether the partial confidence of Hippocrates in the curative powers of nature had a better or a worse effect on his practice than the professed total rejection of her guidance has had on that of modern times. I would only observe that the error, common, almost up to the present hour, of regarding the economy of dis-

Comparison between ancient and modern practice, as affected by the respective notions concerning the relation of the economy of disease to that of health.

ease as essentially distinct from that of normal life, seems to have combined equally with both these views of the curative powers of nature, to influence, though in different directions, the resulting methods of cure.

Neither party were, in fact, while under the impression of this imaginary distinction, likely to discover a natural indication of the extrinsic means by which morbid vital action is converted into normal: a conversion which could not occur in the same living body, that is, in the same congeries of organs and typical susceptibilities, if there were not an essential analogy between the economy of their developement in health and disease, especially as regards the indication of appropriate extrinsic agents.

The attention of both parties was unduly engrossed by the morbid process, whether considered simply as such, or as curative; and hence, while Hippocrates and his followers gently tried to imitate and promote it, the moderns have set up a direct antagonism to it; using the organs and the functions in general, only as they can imagine to make them subservient in the struggle; the apparent object being not to restore health, nor to support life, but, at all hazards, even of the destruction of life itself, directly to subdue the actual disease, and expel it from its stronghold.

Modern developement of various modes of minute investigation.

But, whatever may be the comparative merits of modern practice, or the immediate effect of the repudiation of nature on the treatment of disease, it may be said, fortunately, to have given rise or developement in our own times, to various methods of accurate and minute observation, which a narrow estimate of

the principles and resources of natural medicine may tend to make its less considerate votaries undervalue ; but, which, I am happy to say, are even now, with some of the best minds, redeeming the gross abuses that may be committed by some of their ardently exclusive abettors, by furnishing incontestable materials for the unwitting confirmation and developement of a more enlarged system of natural therapeutics ; their legitimate application to which seems destined, though at a very distant date, to give a scientific precision to our art in the individual application of its principles.

Meantime, we may well excuse even the vanity that may prompt a mutual feeling of contempt for all that are not wedded to any one of the exclusively favored modes of exploration : and heartily congratulating all who succeed, by any ingenuous method, in developing truth, we are content to think that we shall be better able to appreciate the general and relative merits and advantages of the different methods of observation that have been successively resorted to, as the minds of men have turned, with disappointment, from the principles of natural medicine, hitherto but partially taught, when we have further investigated its foundations afresh, for ourselves ; looking simply, and without any scholastic prejudice, for the manner in which conscious life is naturally supported in all its modes : a method of support, moreover, in which we may confidently anticipate to find involved a principle, practically certain and exact ; and which, however it

Their relative value to be estimated only after a fresh investigation of the manner in which life is maintained.

may be supplemented, can never be supplanted by any developement of science.

Let us, then, revert to our actual knowledge of this subject.

In doing this, we at once come to the main source, already alluded to, of the errors of Hippocrates, and of all who have followed him, in succession, in the defence of natural medicine against the prevailing artificial, or unnatural systems of their times.

Life not known
in the abstract.

We know, then, as we have already shown, nothing of life in the abstract: we know it, only as it is variously exemplified and developed in organized bodies, and in the relations which these bodies maintain with external nature. In other words, we know life, only as a series of functions or acts, of which external nature is the object or support.

Developement
of life in a seed

We know, (still further to illustrate this subject by an instance from vegetable life,) that a seed has life within it, or is susceptible of being made to exhibit all the common phenomena of vegetable life, only because we have learnt, from experience, that, if placed in an appropriate soil, and suitably exposed to the influence of moisture, heat, and other agents, it will germinate and rise above the surface in a particular form and with particular parts. Its organization, analogous to that of other bodies that have passed under our observation, and evidently arranged with some prospective reference, is the only means we have of identifying it as a living being, susceptible of such developement. The fact of such developement might, perhaps, of itself, lead us to suspect that the seed, so

organized, is instinct with a principle of life, independent of the air, earth, and water, which promote its growth; but this suspicion is especially confirmed when we find that it was so organized by a living plant of its own kind; which arose from a similarly organized seed; and so on, as we conceive, *ad infinitum*; life being always the last point in the series.

But, if we keep the seed inclosed in a cabinet, excluded from the influence of external elements, it will not germinate; its life will never appear, though all its parts remain in their order.

It will, however, retain its living principle, or its capacity of exhibiting the phenomena of life, for an indefinite time; so that it will still germinate, on being suitably exposed.

On the other hand, if we greatly derange its curious mechanism, as by bruising, or scorching, or, in any other way, let it be spoiled, it ceases to be susceptible of germination, in however suitable a soil it may be placed; its life, or its chance of living, is destroyed with its organization.

By these facts, we learn, in general, on the one hand, that the principle or susceptibility of life is intrinsically connected with the organization of the seed; and, on the other hand, that it is absolutely dependent on extrinsic influence for its developement and manifestation.

Dependent on its organization and on extrinsic influence.

In other words, however real the principle or the susceptibility of life may be, we know nothing of it, except from its external relations; and as it is influenced and developed by external agents. Whatever

may be the intrinsic power of the vital principle, and however curiously it may be imbedded in an organized body, it is as nothing, without the excitement of external agents. Whatever may be its capacity or susceptibility of excitement, it is vain, without the Promethean influence of appropriate external agents.

It may well appear to be a work of supererogation, to undertake to prove that life cannot be developed and maintained, without external means; when this is so evident from daily and hourly experience; seeing that we are constantly dependent on fresh supplies of air, food, and even clothing; without the first of which, we can scarcely live an instant, or remain an instant susceptible of vital excitement, the very susceptibility of life being as dependent on external agency, as developed life itself.

Its dependence
on extrinsic in-
fluence but
partially ap-
preciated.

But, however plain and common-place a fact it may seem to be, we shall, in the course of our investigation, be convinced that it is a much more comprehensive fact than is generally apt to be imagined; and that it is but very partially considered; except as it relates to the most ordinary and absolute necessities of life; while the support, modification, and improvement of life by extrinsic agents of less apparent vital necessity or advantage, are very inadequately, for practical purposes, understood; and at all events form but an insignificant part of the generally recognized elements and objects of medical art.

This depen-
dence the base
of natural me-
dicine; its ob-
ject being to
regulate ex-
trinsic excite-

It may suffice, at present, to observe, that the absolute dependence of life, in all its modes, on extrinsic excitements, is, necessarily, at the foundation of the

natural system of medicine; the object of which must be to regulate this excitement, or, in other words, the external relations of life, strictly according to the organic scope and method or type of nature herself; the determination of this method, as it is developed in living beings, and as it is distinguished from all arbitrary rules, being its great problem.

ment, according to its natural type.

And I may well excuse a few remarks in proof of this vital necessity, by the fact, that the ardent genius of John Brown, who, for many years, more or less guided the medical practice of all Europe, and still continues, by the general truths he enforced, to exercise no mean influence upon it, was so intensely excited by the theory of Cullen, (which, at least, seemed to neglect this vital necessity, with respect to fever,) that he devised a system and wrote volumes, virtually, to demonstrate this apparently simple truth!

Brown wrote virtually to prove the necessity of extrinsic excitement.

Cullen's partial exposition of the *vis medicatrix naturæ*, based, as it was, on the abstract notion of the independent power of the vital principle, appeared, to Brown's heated imagination, to involve consequences to medical art, which he could avert, only by recurring to the opposite extreme of almost entirely denying such power; and so, for the purpose of proving the absolute dependance of life, in all its modes, on the excitement of extrinsic agents, he systematically represented life as a sort of magazine of dust, (which he disguised under the term of excitability) to be only more or less excited into a pothor by the fanning or the brushing of external excitants!

He wrote under the influence of opposition to Cullen's partial view of the *vis medicatrix naturæ*.

Brown's system, the truths and errors involved in

which, we may have other occasions to notice, is one among many instances, which may serve to caution the innovator in any science against expending his energies on the scrutiny of the errors of his predecessors and contemporaries, rather than on the independent and dispassionate study of nature, in relation to his theme; a caution, not less useful in the investigations of science, (and perhaps, scarcely less neglected) than it is in the regulation of our moral conduct and sentiments.

He was thus blinded to the source of Cullen's error in the abuse of the abstract notion of life; and only invented another abstraction, which he equally abused.

Brown was, thus, prevented by the fervor of his imagination, from perceiving that the doctrine which he so zealously combated, had its source in the error of considering life abstractedly: and so far was he from avoiding a similar error, that, though his abstraction of excitability, when viewed merely as a general expression for the susceptibility of vital action and its relation to extrinsic influence, is deeply founded on the facts of this relation; it, nevertheless, contracted, instead of enlarging, his ideas of the real varieties of vital phenomena, and of the influence of external agents in developing them; and, therefore, necessarily blinded him to the perception of the natural method, by which their choice and application are indicated; a method which his combined attention to the intrinsic nature of the vital principle and to the external agents that influence it, was, otherwise, eminently calculated to bring forth to view; and the discovery of which, hidden, as it was, under the prejudices and the philosophy of the schools, not to say, under great natural, as well as social and political difficulties, would, un-

avoidably, have made him the modern father of natural, or æsthetic medicine.

I am not ashamed to take shelter under the genius of this great, but unfortunate man, whose memory is now professedly despised and insulted by some who, while correcting his errors, have purposely or unconsciously adopted the great truths he exhibited. I fear not to plead his authority, while I attempt to develop a little further, the plain and simple fact, but really, the great law of life, bearing on the happiness, as well as the misery of all conscious beings; the dependance of life and all its powers on extrinsic excitement; or, in other words, of the phenomena of life, at once on intrinsic capacity and extrinsic influence.

Brown's authority pleaded in further considering the double dependance of life.

Let us, then, again, for a few minutes, take up the little seed, which we left enclosed in the cabinet, ready, under favorable impressions, to open into life, and become, perhaps, the ornament of the garden, or the monarch of the forest.

The seed resumed.

But, here, we must pause: the lot of this little seed, like that of many a human being, susceptible of great elevation, may not be either so bright or so glorious. It may escape the total derangement of its organization, and the destruction or dispersion of its vital susceptibility, by the bruising operations of the cook or the apothecary, or the jaws of some hungry animal; but only to be blown, by some hapless wind, on a barren heath or rock; where a scanty supply of the elements of its developement and growth, may cause it only just to peep out of the soil, and linger through a pale, feeble, and sickly existence. Its natural capa-

The use of deficient or inferior excitement in maintaining even a puny condition of life.

eity of developement avails, only to keep it a picture of living misery, and an instance of the lowest order of vital action, supported in the most unfavorable circumstances, but still supported. Still, it is a living being, kept alive, as all others, by extrinsic agents : and if even its scanty supply were to fail, all its feeble vital actions would cease. Enfeebled and deformed as it is, and incomplete and disordered as are all its vital functions, they are, still, vital phenomena ; evidences of life, without which, the sickly plant would soon become but a part of the inert and barren soil in which it is cast. As it is, all the acts of its puny and miserable life, are, still, the results of the developement of its intrinsic vital principle or susceptibility, influenced by the external agents among which it is placed ; and as such, are not essentially different from the greater and more desirable results that would appear, in better circumstances. They are, still, up to a certain time, more or less susceptible of being changed for these better results, by a change of circumstances and extrinsic influences. They maintain the vital principle or susceptibility still, comparatively, entire ; ready to develop all its powers, whenever it shall be better placed ; that is, whenever the supply of external agents shall be sufficiently increased. Nay, the present feeble and limited developement of the vital principle maintains it entire for a longer period than would, in the same poverty of its circumstances, the full display of all its capacities and powers : for, this would but the sooner exhaust the scanty supply of vital agents ; while it would require them to be proportionately increased.

For, all experience demonstrates the law that, in proportion as external agents develop life, so does their necessity increase, for the maintenance of life so developed; the capacity of vital action and the necessity of extrinsic support increasing together. Puny, and even diseased, therefore, as may be our impoverished plant, this is the natural condition of the tenure of its life, while it is thus circumstanced. Such feeble, and even morbid vital action, is as essential to its existence, as are the scanty materials which excite and support it. Without these, life would soon entirely cease; and this diseased and miserable mode of life is the only form of life they are calculated to evoke and maintain.

It is not possible, then, to improve and exalt life, without improving its external circumstances, and thus improved and exalted, it can be so maintained, only by the continuance of the increased external supplies. However much, then, morbid or depraved vital action may be changed or modified by successive changes of vital agents, it cannot be changed into a healthy, or a more elevated mode of action, without an appropriate change of external circumstances, and the removal of all the extrinsic causes of deterioration and disease.

Thus, by the due consideration of the influence of extrinsic agents on life, in all its modes, we are enabled to reconcile the patient toleration of morbid action, or diseased modes of life, with the most strenuous and comprehensive exertions to improve and subdue them: a *desideratum*, which has not, hitherto, been realized in medical art; and which it is in the

Life cannot be improved without improving its extrinsic excitement.

Natural medicine only can reconcile the tolerance of disease with the effort to remove it.

province only of natural medicine adequately to supply.

Effects of the
opposed views
of the relation
of disease to
life, severally,
on the treat-
ment of disease

So long, indeed, as, on the one hand, morbid action is supposed to be instituted and supported by the intrinsic power of life, for the preservation of life, or the elimination of a noxious agent, no rational attempt can be made to suppress it; the legitimate object of art, as suggested by such a notion, being, rather, to assist in maintaining it; and the modifications and improvements, of which, while it is still a morbid action, it is naturally susceptible from extrinsic agents, being, from the influence of such a notion, of necessity, but very partially, if at all, estimated.

On the other hand, when the morbid action is supposed essentially to differ from the operation of the vital principle, and to be directly destructive of life, every possible attempt is made directly to repress and subdue it, as if it were entirely alien to the vital economy; while little, if any, attention is paid, on the one hand, to the manner in which it is naturally changed into healthy action, or, on the other hand, to the extrinsic causes.

Both views
cause a partial
estimate of the
causes of dis-
ease.

A partial estimate of the causes of disease seems, indeed, necessarily to arise from both these opposite views of its relation to life; as they equally involve an inadequate idea of the dependence of life and its modifications on the influence of extrinsic agents.

Hippocrates' system of natural medicine, which rested essentially, as we have seen, on the partial consideration of disease, as a vital phenomenon or process, conducive, in its circumstances, to the main-

tenance of life and the restoration of health, seems to have been suggested principally, if not entirely, by the theory of peccant humours, generated within the body, as the general excitant or cause of diseased action; while all artificial systems, (with perhaps, in some measure one modern exception, which I cannot, at present, further notice) resting, as they do, on the opposite consideration of disease, have been framed on partial and exclusive notions of more directly extrinsic causes.

From the foregoing considerations on the general fact that life is cognizable only in connexion with organization, and by its external relations, we may safely conclude, that no abstract idea of life, or of the vital principle, or nature, that excludes these, or any of them, though it may be otherwise convenient, can form the basis of a philosophical doctrine of life, or of instruction in a practical art that regards the regulation of life.

Conclusion that no abstract idea of life that excludes its organization or its external relations can be the basis of a doctrine for the regulation of life.

Such an abstract idea, however, may still have its use in preventing an art that is necessarily exercised in the use of things extraneous to life, for the regulation and correction of vital phenomena, from neglecting, or but partially considering the fact that none of its agents can exercise their influence, except in subordination to actual and connate vital tendencies, which however indicated, and whether appreciated individually or estimated according to some general law of life, are essential elements in all artificial arrangements that regard living beings.

Partial use of such an abstract idea.

These two elements of medical art, never entirely neglected, but alternately attended to.

The two elements of medical art, thus alluded to; viz., the actual or connate susceptibility of the patient, and the influence of extrinsic agency upon it, are, both, too palpable, in the gross, to have been ever entirely neglected; but, the history of medicine affords sufficient proof that medical doctrine and practice have been alternately characterized by an unduly preponderant attention to one of them, and the comparative neglect of the other.

Vacillation between exclusive attention to the abstract power of life and empirical reliance on extrinsic agency.

The difficulty of determining the operations of such an abstract principle as that of life, while living beings are continually and necessarily subject to extrinsic influence, has, at all times, soon caused the attention of physicians to be turned from their consideration to that of the modifying powers of external agents; or, in other words, to the sensible resources of art: but, on the other hand, the vagueness and uncertainty of purely empirical observation has never failed to be readily recognized, and has, again, driven its disappointed votaries to a patient, but really idle, watching of the unaided processes of nature.

Normal and morbid anatomy of themselves unavailable.

Nor, can it be, with truth, affirmed, that the practical treatment of disease has, in modern times, derived any more direct advantage from the elaborate, and otherwise useful study of the appearance and structure of the organs of the body in health and disease; to the neglect, at once, of general susceptibility and extrinsic influence. On the other hand, it may be safely asserted, that the maintaining and repairing processes of life cannot be studied to any better advantage in the organs alone, than in the vital

principle alone, or in the merely empirical observation of the effects of external agents on the symptoms of disease.

Finally, we may be assured, from the foregoing considerations on the two elements of medical art, thus associated in the animal economy, that both must bear their natural part, and only such, however it may be determined, in a strictly natural doctrine or system of medicine.

Conclusion;
both the elements alluded to must bear their part in a natural system of medicine.

Section 2.—On the Varieties of Life.

Having, in the preceding section, considered the common fact of the simultaneous dependance of organized life on intrinsic susceptibility and extrinsic excitement; and having shewn that these two vital conditions constitute the two natural elements of medical art, we proceed to notice a series of common facts, which may suggest more or less distinctly the relative value of these elements, by evincing the infinite variety of vital susceptibility, or capacity of external relation, to which medical art has to adapt itself.

The infinite variety of vital susceptibility to which medical art has to be adapted.

Our attention is, in the first place, drawn to the fact, that the phenomena of life, or its relations to external things, or its susceptibilities, powers, functions, and acts or movements, as well as its organization, are *peculiar* in each living species; their several peculiarities being the only means by which species are distinguished from each other.

The phenomena of life peculiar in each species.

I need not dilate on the infinite variety of the living species that people air, earth, and sea; all of which are thus distinguished by an infinite variety in the phenomena and external relations of the vital principle that actuates them.

Also peculiar
in each individual.

But, the phenomena and external relations of life are also peculiar and appropriate to each individual: and thus is still further magnified our conception of their variety: while, it is truly remarkable, amid all the changes that man and other animals undergo, how pertinaciously all retain their individual or constitutional peculiarities.

These constitute, as it were, the *ultimatum* of vital susceptibility; into which all the more temporary changes induced by extrinsic agents merge; on which they may be said essentially to depend, or, from which, they may be said to derive their character, at least as much as from the extrinsic agents which more immediately appear to induce them.

Typical limit
to the influence of
extrinsic agents.

We have, therefore, in the peculiarities of individual constitution, in the same species, a characterizing, or typical limit to the modifying influence of extrinsic agents on life, just as we have such a limit in the more abstract, or more general peculiarities, if we may so speak, of a species. We cannot, by any change of external circumstances, make a radical change in the connate, individual constitution of a living being, any more than we can, by such means, alter his species.

Retained
throughout life

However completely we may change the external circumstances of a living being; and though great

apparent differences may thus be realized in him, the whole series of results will bear an interminable relation to his congenital and hereditary susceptibilities. They will, accordingly, so differ, in different individuals, however similar the external circumstances may be, that, amid all possible changes, the congenital analogy and individuality of each will be retained: and this, throughout all the naturally successive periods of life; the old age of any two individuals differing constitutionally or naturally, as well as adventitiously, equally with their infancy or their manhood. (Note 5).

These constitutional peculiarities are, moreover, both in species and individuals, propagated by generation; and not only so, but their number and variety are still further increased by their manifold intermixture in this great vital function.

Individual peculiarities multiplied by generation.

Every single generation, literally, produces a new and distinct peculiarity of life or constitution; or a new and peculiar limit to the influence of extrinsic agency: a peculiarity, and a distinct order of life, never before realized, and never to be repeated; being essentially inimitable: and yet, a peculiarity, as real as that which distinguishes one species from another.

Derived from two parents, it is the double basis of individuality; which is simply a fixed or organic peculiarity in the relations of life to the influence of extrinsic agents.

But, there is a limit to the possible intermixture of the peculiarities of species; that is, to the mutual congruity and intermixture of different series or modes

Specific and individual congruity limited.

of vital susceptibility, as they characterize species: if, indeed, we should not rather say, with the naturalist, that specific difference is itself the natural limit to this mutual congruity. Be this, however, as it may, there is ample reason to suppose that this limit of specific congruity is only an exaggeration of an essentially similar, though rudimentary limit to the normal and convenient, or even the possible intermixture of the peculiarities of individuals of the same species. The discriminativeness of mutual inclination may be very fairly said to imply, at the least, greater and less degrees of natural tendency to such intermixture; and some tabulated calculations, of which time and opportunity may favor the completion, render it more than probable, independently of other modes of observation, that the results of generation differ very materially according to laws of individual, not to say of connubial congruity, of which indications exist even at the time of birth; but which, happily, become very clear in after-life, to those who will attend to them, with a deep-laid and unflinching faith in the fundamental law of life on which they depend.

Analogy of habit to generation.

The effect of generation itself in modifying and varying life, may be said, without any impropriety, to be an effect of extrinsic agents on life: and we find an approach, in some small degree, to this modifying effect of generation, in the phenomena of habit; to the effect of which, also, there is a limit, the consideration of which is apt, as we shall have other occasions to notice, to be comparatively neglected, though it is very important, both to the moral and physical nature of man.

Habit and generation may, therefore, be not inaptly associated, as being two of the natural means of multiplying specific and individual varieties, or in general, the forms of life; and thus, of infinitely diversifying the mutual relations of life and extrinsic agents.

But, the limits alluded to are essentially unpredictable; and we can realize them, only on determining the elementary phenomenon of life, if such there be, that regulates these relations, or rather, affords a clue to such regulation. It is especially, impossible, otherwise to determine how far, with advantage or disadvantage, any constitutional peculiarity, whether specific or individual, can be modified, whether by habit, or by intermixture in generation.

These limits
unpredictable.

But, notwithstanding the permanency of individual peculiarities, which we have seen to be multiplied by generation and habit; the variety of the phenomena and external relations of life will appear still further, if we consider that they are commensurate with the influence of all extrinsic agents that may be made to act upon life without destroying it; though the changes produced may not always be directly appreciable, and though they are entirely beyond the compass of language.

The variety of
vital phenomena
commensurate
with the
influence of
extrinsic agents.

For, all such agents act, in relation to animal life, by exciting some mode of vital action in the organs; life taking its character, on the one hand, from them, and they, on the other hand, being characterized, in this respect, by their mode of action on life.

If two things can be supposed to excite a living

being in precisely the same manner, then, so far as their relation to life is concerned, they are but one. But, it surely behoves us to be careful of being seduced, by our necessarily imperfect estimate of the varied forms of vital excitement, to identify two objects, which the more accurate use of our senses in the discrimination of their superficial qualities, makes us consider as different.

The study of external nature a part of the study of life.

The study of external nature in general, or of things extrinsic to life, is, therefore, a real part of the study of life itself; life being cöextensive with its external relations, and essentially incomprehensible without them. We may, indeed, with strict propriety, say that the external agents which promote vital action, in any of its modes, are not really extrinsic to the vital principle itself, but are, as it were, essentially integral parts of its organic composition and development; so that the difference we make between the terms external and extrinsic is but popularly convenient, not strictly philosophical or essential.

The means of life to be sought in all the productions of nature and art, in subordination to individual susceptibility.

For the means of modifying life, we may, therefore, range over all the kingdoms of nature, and through all climes; but, the use and application of all our discovered agents, whether ordinary or extraordinary, regiminal or pharmaceutic, simple or compound, merely natural or artificially arranged, must be subordinate to the ascertained susceptibility and economy of the living beings on whom they are to act; or they will avail nothing as resources of useful art, whether for the maintenance of health, or the treatment of disease. (Note 6).

Considered as supporting or exciting vital action in general, or in the abstract, all vital agents may be regarded, with Brown, as exercising only one kind of influence; but, in reality, this influence is as varied, not only as the agents themselves, but as the actual susceptibility of the living beings on whom they act; by whatever method the vital relation of agent and susceptibility may be determined.

External influence as varied as the agents of life and as individual susceptibility.

It is still, virtually, a common error, notwithstanding Bacon's denunciation of it, to imagine that human language or thought can be made adequately to represent the variety of natural facts: and in no instance, is this error more fatal to the progress of art, than with respect to the diversities of life and its functions and capacities.

We are apt to regard the evident number of organs, or of animal products, in health or disease, not only as a naturally convenient means, which it is, of compendiously generalizing vital phenomena, and the external agents which affect them, but also as adequately representing the real variety of the susceptibilities, and functions, and conditions, and external requirements of the living being: and, hence, we are apt to conceive it to be comparatively easy to form an accurate idea of the general vital import of what we have once seen or felt, to describe it as exactly to others, and even to reproduce or unerringly and advantageously to imitate it, whether we suppose it to be a phenomenon of health or of disease.

Error of supposing that we can make our general ideas and terms adequate to the facts of nature or of life in health and disease.

While condemning such abstractions of the principle of life as Brown's, we are too ready to yield ourselves

Necessity of attending to the subjective relation of sen-

sation in order
to obviate the
fallacy of expe-
rience in esti-
mating the vi-
tal relations of
external things

(under the influence of a vain confidence in partial experience, fallacious as Hippocrates truly pronounced it to be) to much less ingenious, but more futile abstractions or generalizations, which are founded on the partial supposition that the senses reflect to the mind merely the qualities, or accidents, as they have been termed, of external things : while we utterly neglect their more fundamentally important office of reflecting also the intrinsic condition and susceptibility of the living system, of which their organs form integral parts ; a reflection which, nevertheless, gives the color and variety of life to the other ; and without the inclusion of which in all our estimates of the relation of vital susceptibility, and extrinsic excitement, the fallacy of empirical analogies, indications and methods can never be obviated. This reflection is a mere abstraction, as it is represented by the simple term of vital or sensible congeniality ; but it is pregnant with all the possible modes of organized vital susceptibility, and all the discoverable means of developing them ; inasmuch as it is essential to all vital assimilation.

The phenom-
ena of life deve-
lope in orderly
succession :

But, we proceed to notice another fact of this series, viz. that the phenomena of life develope in orderly succession, or in serial cycles ; each of which implies a fresh susceptibility, or a change of relation to extrinsic agents, as well as a modification of the organization.

I need not stay to illustrate this general fact by the changes that characterize the successive stages of life, from the "mewling and puking" of infancy to the "last scene of all that ends this strange, eventful history."

I would only observe, with respect to this regularly progressive developement of vital phenomena from birth to death, that the developement of each successive phenomenon or series, in the progress of life, is promoted, at once, by an intrinsic tendency or capacity, and by extrinsic excitement; both being equally necessary to the result. We no more expect, by any means whatever, to realize, in youth, the natural phenomena of manhood, than we hope, after any method of cultivation, to gather grapes from thorns, or figs from thistles. Nor, on the other hand, do we ever rely so confidently on the intrinsic power and tendency of any constitution to develope itself, as entirely to neglect the prospective care that each succeeding age requires.

and at all times, equally in accordance with intrinsic susceptibility, and extrinsic excitement.

Again, the developement of each successive mode of susceptibility, or of each vital series of phenomena, is incompatible with the continuance of that which immediately preceded it; each being essentially *sui generis* and appropriate, though both are vital.

Each vital phenomenon is transitory, and gradually inductive of those which immediately and remotely succeed it.

Each phenomenon or susceptibility of life, or each vital series, has, therefore, an intrinsic tendency to *change* or *cease*, as well as to develope; each, in its turn, merging gradually in the next that is to appear on the tide of life.

Life is, thus, a continuous chain of successive modes of action, susceptibility, and external relation; which, being uniformly as cause and effect to each other, retain, to each other, through the whole vital series, the same vital analogy; and permanently characterize, actually, and as they succeed each other, each species and individual.

Vital susceptibility is never stationary, but ceases as it is developed.

The vital series runs essentially the same course, and remains equally characteristic, from birth to death, though, to our senses, its peculiarities may be somewhat disguised by changes in the exposure to extrinsic agents: so essential is intrinsic tendency, as well as extrinsic excitement, to every development of life.

Life, therefore, cannot be stationary; and each vital phenomenon, or action, or susceptibility, has an inductive reference to the whole vital series, through that part of it which immediately succeeds.

Each stage of life is, moreover, essentially dependent on extrinsic agency, of which the effect is, at once, strictly appropriate, and terminable; inasmuch as it implies, from the very nature of the relation between vital susceptibility and extrinsic excitement, not to say from the universal relation of cause and effect, a change in the susceptibility at the very first, and each succeeding instant that an extrinsic agent operates.

As is exemplified in the common phenomena of perception and memory.

This is sensibly exemplified, without recurring to the exaggerations of experiment, or of peculiar susceptibility and circumstances, by the common phenomena of perception and memory: the faculty of memory especially being characterized by the recognition of this great vital fact.

On no other principle, indeed, could life be fitted to undergo the modifications that are impressed upon it by external things; and all its variety would, otherwise, be lost. To become stationary, if we may so imagine it for a moment, life must cease to depend on extrinsic agency, or to manifest external relations;

Life could not otherwise be varied, especially as it is by the susceptibility and relations of mind

through which only it is apparent to our senses whether in its lowest or its highest forms, to which it can be exalted only by the ever-developing susceptibilities and relations of mind.

We learn, by experience, to predicate the general order of the successive developement of vital phenomena; and it is only experience that teaches us that the series is a terminable one, ending in death: the circle of vital actions, susceptibilities, and extrinsic relations gradually contracting, as it, before, gradually enlarged, until vital susceptibility finally ceases, and all extrinsic agents become powerless to maintain or revive it.

We only learn by experience that the vital series is terminable.

The general conception, that we gain, from experience, of the relation between vital susceptibility and extrinsic excitement, is one, simply, of successive change or variety; and it is only experience that can teach us the particular fact, that the changes which usher in the last evident mode of vital action, are as strictly consequent on all that have preceded, and on the appropriate influence of extrinsic agents, as those which form the prelude to the commencement of life. In other words, the phenomena, susceptibilities, and external relations of death, or, of a living being, accomplishing the last term of his vital series, are as appropriate to each species and individual as those of any other period or mode of life. All living forms die; but each, in the very act of death, as in all the changes that precede and prepare for it, retains its individual character.

The mortal term of the vital series is specifically and individually appropriate.

An adequate principle of art must provide for death.

It is, then, as much in the province of art, as Bacon well conceived, to prepare the dying for death, as the living for life : and it is at once apparent, that, while, on the one hand, appropriate changes of vital action and susceptibility, as well as appropriate extrinsic agents, naturally prepare for the last change of death ; and, on the other hand, the time and manner are virtually unknown, all art must be defective that is not founded on a principle that regulates equally the developement and the decay of the living body.

Without such a principle, art cannot attempt to promote the uncertain issue of life or death with credit to itself and justice to its patient.

Hippocrates very wisely cautioned the physician not to disgrace his art by attempting to cure disease that is inevitably fatal : but this is virtually done, whenever we use remedial appliances, as such, which we should not use, if we could predicate an inevitably fatal issue. Nor, can this be avoided (consistently with the amiable feeling that “ hopes against hope,” though the poor dying patient, instead of being soothed in his last hour, is at once miserably and affectionately tortured), until the art of medicine is based on a natural principle which shall enable us to promote, with equal certainty and advantage, the uncertain issue of life or death.

Vital susceptibility is further modified by smaller periodical cycles, more or less observable.

We have, hitherto, considered the developement of vital phenomena, only as it is regularly progressive from the commencement to the end of life : but, as the great, general series of vital changes is thus completed, the phenomena of life are further diversified, as they also succeed each other and recur in smaller periodical cycles ; of which many, though little or not at all noticed by the common observer,

are equally real with those which force themselves upon the most careless.

Independently of the confirmation afforded to this assertion, by direct and exact investigations, such a periodical recurrence of vital phenomena may be legitimately and certainly associated with the periodical recurrence of certain atmospheric and mundane conditions, which are respectively adapted for their developement. Witness, the regular interchange of day and night, of summer and winter, as the most remarkable and most inclusive of such conditions; with which coincide, not only the natural interchange of vigilance and sleep, but the equally certain, and equally natural or intrinsic variations in the developement of animal heat and of other vital conditions and susceptibilities, with which it is naturally associated according to laws more or less evident.

In a few instances, these periodically recurring phenomena of life are sufficiently regular and predicable, to form available points of practical observation and prudence; such as menstruation and (the termination, not to say the commencement of) pregnancy. And these are, of themselves, sufficient to indicate the existence of a general law of periodicity in the animal economy which regulates them, and all other recurring phenomena, compatibly with them, in the male, as well as in the female.

Hippocrates profoundly conceived and elaborately developed the doctrine of periodically recurring critical days, as the foundation of natural medicine;

As might be anticipated from the necessary harmony of vital developement with the periodicity of mundane phenomena.

Two periodical phenomena that are habitually anticipated.

Hippocrates conceived the doctrine of critical days as the basis of natural medicine, but in vain.

but, without referring to private observations and calculations, I think I may safely assert that all his labor and ingenuity did not enable this great father of medicine to discover all the natural elements that regulate them, and that so diversify them in different individuals and circumstances, as to preclude, from their unaided observation, any direct result, to the art of medicine, more than a purely expectant and inert practice.

Their determining elements too complex to be practically controllable without a regulating principle

Nor do I augur that, when the observation of the periodical changes that occur in acute disease shall have been subordinated to those which also occur in chronic disease, and these, again, to the similar changes that occur throughout life, we shall obtain therefrom, a really definite and certain principle or rule for the treatment of disease. On the contrary, if I mistake not, the elements which regulate the periodicity of vital changes in all species and individuals, and in all the circumstances of health and disease, must always be sufficiently complex and indeterminable, to afford a sufficient plea for all the caution of Hippocrates; who was properly and instantly afraid of disturbing, by blind art, the provident operations of nature: for, surely, these smaller periodical cycles, and the crises of disease, with which, notwithstanding his acute observation, he was so careful to interfere, will ever be less certainly determinable, or afford less certain indications, than the two larger cycles, to which I have already alluded as matters of more common notoriety; and which the more intelligent of the moderns, to say the least, profess to respect in all their artificial arrangements and medications.

Interference with the two cycles alluded to generally feared.

It may, further, be observed, that the periodicity of all vital changes not only renders the interference of art precarious, but vitiates any evidence that may be brought, irrespectively of such a fact, in favor of its supposed results or effects; modified as such results must be by such unobserved intrinsic tendencies. Nor can medical evidence or logic, as it has been termed, be ever divested of its proverbial uncertainty, until medical art is based on a principle that is equally natural with the law or fact of vital periodicity itself; to the results of which it must certainly refer, however unpredicable they may be.

Vital periodicity renders the interference of art precarious, and medical logic fallacious.

It is well known that Hippocrates, in his cautious treatment of disease, was always anxious to administer the few remedies that he used, as near as possible, to the very time when his previous experience, and his actual observation of the case in hand, led him to anticipate the spontaneous occurrence, more or less, of the desired effect; which he only aimed to assist nature in producing in her own manner and at her own time. Nor will it be denied that all the appliances of art appear still to succeed the most decisively, when they are shrewdly or accidentally used so as to eke out an evident natural or intrinsic tendency; and especially, when they are accompanied with other agents that are, at the time, naturally indicated; and which, though not included in the direct combinations and methods of art, do not fall within the category of its prohibitions.

Art appears to the best advantage when its means are applied in immediate anticipation of a natural crisis.

And this leads me, moreover, to notice that, inasmuch as the periods of vital changes or phenomena,

The double postulate of vital periodicity indicates the

reality of an
organic princi-
ple for its pro-
motion.

whether regularly progressive, or recurrent, must, as well as their diversified modes, depend equally on intrinsic tendency or susceptibility and extrinsic excitement, they seem to warrant, independently of any other consideration, a direct inference that, in the scheme of the animal economy, there is some natural indication for the due supply of the latter, that must form the natural and only secure and adequately broad basis of the art of medicine; and the neglect of which must have hitherto caused the failure of all attempts to establish a natural system of therapeutics.

The continual
composition
and decompo-
sition of orga-
nic matter, and
of its ultimate
compound nu-
cleus.

But, I proceed to advert to the vital phenomenon, (if we may so term it in respect of its apparent results,) that may be said to constitute the most frequently, not to say incessantly, recurring of all periodical changes in life. I allude to the continual composition and decomposition of the elementary organic matter, or as we may, perhaps, say more correctly, of the ultimate organic composite, in which life may be said to be first organized and embodied; whatever form this protoplast or primitive germ may be conceived to assume; which forms the general basis of the organs; and which, absolutely and momentarily necessary, as it is, for the manifestation of life, at once in its continuity and its successive evolutions, is, of all chemical compounds, the most fluctuating and unstable.

The most fun-
damental phe-
nomenon of
life.

This continually reciprocating composition and decomposition of organic matter may be said to constitute the most elementary and fundamental phenomenon of life; as it refers to the very basis of the organization which characterizes and defines each particular form of life.

But this most fundamental phenomenon, evinced, as it is, in all the forms of nutrition and excretion, is developed agreeably to the intrinsic tendency of the organic compound, as this differs in each species and individual, and, perhaps, also, in the same individual, at different times; and is still, as all the other phenomena of life, and as all other chemical changes, essentially dependant on the influence of extrinsic agents.

Appears in all the forms of nutrition and excretion, and is appropriate to each species and individual; and moreover, dependant on extrinsic influences.

In the language of chemistry, we say that animal matter is composed of four principal elements: but, these are variously combined and modified in the different tissues of the animal body; and we gain the general idea of animal matter, considered as one chemical compound, only from the mutual analogy of its various modifications in these tissues.

The four elements of animal matter differently combined in the different tissues.

We have, therefore, as much reason to infer an essential peculiarity in the ultimate organic element or basis of each individual animal, regulating, as it were, all the peculiar arrangements of the animal tissues, that characterize such animal, as we have, to infer one common organic element from all its analogous modifications, as they appear in all the tissues of all living beings.

An individual peculiarity in the elementary nucleus may be inferred as well as its general character in all living beings.

However inscrutable this subject may be, the diversity of resulting tissues, organs, and vital phenomena, that characterize each species and individual, not to say the same individual at different times, must extend to the very organic element of which all his organization is composed; since, upon this element, the real *archeus* of Van Helmont, or the fundamental

It is the *archeus* of Van Helmont.

germ of life, must depend the individual character of the organized aggregate: of the origin and special developement of which, to its very latest evolution, no conception can be formed, except from such a radically peculiar germ, appropriately excited by extrinsic influences.

Assimilation and excretion, comprize all the manifold intrinsic phenomena of life, or all vital compositions and decompositions.

The composition of organic matter is termed assimilation, nutrition, or accretion: while excretion is the general term for its decomposition.

These, together, comprize all the intrinsic phenomena of vital organization: but, how many modes of action, and how many conditions are implied in these comprehensive terms? and how many compositions and decompositions take place within the living organism, which are expressed externally only by one sensible result?

The reference of vital susceptibility to the support of the organized body by extrinsic influence demonstrated syllogistically.

As life, then, in general, is supported, or manifested, only by means of an aggregate organized body, all its susceptibilities, powers, and phenomena, in particular, must be supported or manifested by means of the organic matter of which the parts of the body are composed, in all the stages and modes of its continually reciprocating composition and decomposition: and as, on the other hand, all the changes which the organs and their organic basis undergo, essentially depend on the influence of external agents, in relation to which only, the resulting phenomena of life are evinced, all these phenomena must have indirectly, a reference to the promotion of the organic changes, as they have directly to the application, regulation, and choice of the extrinsic agents required. Or, in other

words, the organized living body must indicate the extrinsic means of its evolutions.

But, as all vital phenomena and results are regulated by an intrinsic tendency, as well as by extrinsic influence, under one bond of sympathetic union, there must be a fundamental or elementary phenomenon of life, among all those that have this reference to the application and regulation of extrinsic agents; just as there is, in the continual composition and decomposition of organic matter, a fundamental phenomenon among the changes of organization, and as there is, also, a fundamental element, or an elementary aggregate, of all organic tissues and combinations.

Inference of an elementary or fundamental susceptibility regulating the rest.

The art, therefore, that teaches the maintenance and regulation of life in general must have a direct reference to the supply and regulation of the extrinsic agents that support life: and its great problem must be to discover the elementary phenomenon of life that refers to this supply and regulation, and the natural laws of its developement.

The problem of vital art to discover this susceptibility.

It is vain to regard, merely, the objective qualities of extrinsic agents, or even their objective influence on vital action, or on the phenomena of life, without regarding, also, the intrinsic, or as we may say, subjective relation of the organization, or of life, to them.

Vain to observe only the objective qualities of external things, even in relation to life.

It is equally vain, on the other hand, to attempt to lay the foundations of medical art in a laborious investigation of the elementary tissues which enter into the composition of our organs, without regarding the elementary laws of their contexture and developement, under the influence of appropriate extrinsic agents.

Medical cannot be based on anatomical structure.

However accurately and beautifully we may unravel and display the fine and intricate web of our organs, we can learn nothing for the elevation of medical art, except we discover an elementary law of vital development, which, coeval and progressive with the first germ of life, determines the organization of this germ, at once in relation to its intrinsic susceptibilities, and to the extrinsic agents that are necessary for its developement.

We have, hitherto, considered only the normal phenomena of life.

We have, hitherto, considered the phenomena of life, its susceptibilities and functions, as we may suppose them to be varied compatibly with a state of normal integrity or health; or rather, without any special reference to that condition of life which is designated by the general term, disease.

Disease an inevitable result of the varied susceptibility and necessary influences of life.

I will not, at present, attempt a definition, either of health or disease; and will only observe that disease, or derangement, more or less, of parts, susceptibilities, and actions, seems, from experience, to be an unavoidable result of the varieties of which life, intricately organized as it is, is thus susceptible, and of its dependance on the ever-varying influence of extrinsic agents, under the complex conditions of individual and social existence.

Its two fundamental postulates are those of health.

It is, however, a mode of vital action, and a source of diversity in the phenomena and susceptibilities of life, to whatever extent the derangement may go; as it is, in all its forms, developed, equally with all the more normal developements and manifestations of life, by extrinsic excitement, in connexion with intrinsic vital susceptibility.

As it is excited, more or less directly, by extrinsic influence, its character or form, also, depends, as is true of all the more normal phenomena of life, on intrinsic susceptibility or tendency.

Its form depends equally with that of health on intrinsic susceptibility.

Hence, as we have seen of vital phenomena in general, morbid phenomena, and the relations of morbid life to extrinsic agents, differ in each species and each individual.

It differs in each species and individual.

The phenomena of disease are, also, as vital phenomena, successive, and mutually dependent ; their maintenance, and all their possible modifications, still, on the other hand, depending on extrinsic excitement.

Its phenomena are successive and mutually dependent.

The regulation of this extrinsic excitement must, therefore, depend on the same element of life as the regulation of vital phenomena, in better circumstances ; though this very element of life may be a prominent indication of the morbid action or condition of the organism, and morbid or abnormal as this condition itself.

Its regulation must therefore depend on the same vital element, though it may be a prominent indication of disease.

Indeed, the vital element which regulates the application of extrinsic agents, in a state of disease, must necessarily, as being an intrinsic susceptibility of the morbidly disposed organism, be itself in an abnormal condition ; inasmuch as disease is characterized by an abnormal relation of vital susceptibility to the influence of extrinsic agency, just as health, so far as we approach or imagine it, is characterized by a normal relation of the same.

It must, indeed, be abnormal in disease, as it is normal in health.

The issues, to use the language of Hippocrates, which nature finds or determines, must be abnormal in disease, as they are normal in health ; and the sup-

The issues of disease can only be abnormally vital.

position that disease can be brought to its appropriate issue, (i.e., carried through its appropriate course, or, in other words, developed or matured, until it can be eliminated from the system, or be made to merge in the condition of health), or even the supposition that it can more summarily be brought to a crisis, by means of any normal susceptibility to the influence of extrinsic agency would be as absurd as to suppose that the same use of extrinsic agents which is required for the maintenance of health is adequate to the cure of disease, without any regard whatever to the actual susceptibility: a supposition which would make disease virtually the same condition as health; from which it differs, to our senses, only by a different order of relations between vital susceptibility and extrinsic excitement. However correct may be the personal susceptibility of the physician, he must be content to use, for his curative indication, the abnormal or morbid susceptibility of his patient; or he must altogether repudiate, if he can, the idea of interpreting and ministering to nature, in the exercise of his art. And even when he has unfortunately resolved to repudiate altogether this idea, and to regard the false rules of his art, to use the words of Sydenham, rather than the organic indications of his patient, he often brings himself into the predicament of unconsciously using them, and not unfrequently of finding the disgrace of his art due to the ultimate arrest of its baleful influence by their irresistible development.

But we shall be better able to appreciate the force of this alternative, and the influence it has had on the

history of natural medicine, when we have determined the particular morbid susceptibility under the more especial guidance of which medical art is required to act. Meantime, returning to the comparison of morbid with other vital conditions, we proceed to remark that there is a limit to the possible modification of morbid vital action, as there is to that of all vital phenomena.

Disease, as a mode of vital action, is fixed, as a constitutional peculiarity, by habit and generation; and it is utterly impossible, as it is with respect to all other vital phenomena, to predicate the extent of its possible modification, whether in the way of improvement or deterioration, by these great extrinsic perpetuators and modifiers of life.

Disease is fixed as a constitutional peculiarity by habit and generation

But, among all the varieties of life and of extrinsic agency, how shall we determine that variety of life, or that series or mode of extrinsic agency that may be supposed to form the type or best sample of life and its extrinsic support? How shall we determine which to maintain, and which to correct; or where to stop, in our attempts to improve and exalt life and its extrinsic supports? The question can only be answered of the extremes; while the principle which regulates the extrinsic maintenance of life, in these extremes, must be the same as that which regulates it in all other degrees and states: and any principle of art must necessarily be faulty, so far as it differs from this, or as it fails in its general applicability to the ever-varying circumstances of life.

Impossible to determine the exact limits of the normal and abnormal, and how far, to attempt the improvement of the latter and of vital agency.

Moreover, morbid action, supported by extrinsic

Morbid action necessary in

the actual circumstances of disease.

influence, is, under the actual circumstances, as necessary for the maintenance of life, as any better mode of vital action is, under different circumstances.

Disease must be maintained by external agents through all its stages.

It can, therefore, be advantageously altered, only by using the agents that are actually, or as may be said, with strict propriety, naturally adapted to it; that is, adapted to maintain it through all its progressive stages.

It requires, therefore, to be actually maintained and developed by extrinsic agents as truly as this can be said of any other better mode of life.

This can, indeed, strictly be said of none; as all, however imperceptibly to our senses, severally and incessantly tend to merge in another: the influence of extrinsic agents being, thus, while it maintains life, an influence that continually changes life.

A pregnant principle required.

But, a key is required to open the natural avenues to these imperceptible changes, whether of healthy or morbid life: and, as, in both cases, the phenomena are vital, the avenues to them must open to one instrument of disclosure. In other words, one natural principle must be pregnantly sufficient to regulate the maintenance or developement of life or health, and the treatment of disease.

This must be easily applicable to produce unpredictable results.

But, it is manifest that the general principle sought must be one that is itself easily appreciable and applicable; while it leads to results that are inappreciable, except in the extremes; inasmuch as the effects of all extrinsic agents, to the use of which such a principle must apply, are, like the differences of vital action, which they constitute, appreciable only in their extremes.

Summary.

We have, thus, endeavoured to gain some faint idea of the immense variety, on the one hand, of the vital conditions to which medical art is required to adapt itself, and, on the other hand, of the forms of extrinsic agency which it is required to provide and appropriate.

We have glanced at this variety, as it is exhibited, on both hands, in species and individuals; as it is multiplied by habit and generation; as it is commensurate with all the extrinsic agents with which living beings can be in relation; as it defies the abstractions of human language and thought to express or conceive it; as it is developed, not only in the progressive stages of life, and in death itself, but, also, in the smaller periodical cycles, through which vital phenomena revolve, and finally, as it is based on the incalculable and interminable variety of the organic germ itself, and on the continual fluctuation of organic matter; and as it is still further heightened in all the forms of disease.

We have, moreover, seen that this incomprehensible variety of vital susceptibility and excitement is fixed, and limited, and regulated, by specific and individual types, and by definite periods and cycles, which are as intrinsic in the vital organism, as they are momentarily dependent on the appropriate influence of extrinsic agents.

We are, surely, thus, in a position to infer still more conclusively, that no abstract notion of life, considered, either as independent of organization, or as consisting of one mode of susceptibility to the influence of extrinsic agents, can enable us, on the

Inferences:—
No abstract notion of life whatever adequate for the conduct of life.

one hand, to form an adequate conception of the natural powers and processes, by which life is maintained and developed, and so, give us confidence in them, in the treatment of disease, or, on the other hand, to diversify and appropriate the resources of art, to imitate them, or to supply their place.

Nor any general rule that is not drawn from organized life itself.

The inference is, also, sufficiently authorized, that no general rule, except one drawn from the very mechanism of life itself, and essentially varying in expression with all its forms and susceptibilities, on the one hand, and its external relations, on the other hand, can enable us to determine, with accuracy or certainty, the extrinsic agents which are required for the due maintenance and progressive development of life, as they fluctuate and differ for each species, for each individual, and for the same individual, at different times.

Language is inadequate to express all the conditions of life.

It is, also, evident, as we have before noticed, that language is utterly inadequate to express, or the mind to conceive, the infinite variety in the modes of vital action and function that characterize species and individuals, and that are appropriate to the infinite variety of circumstances in which living beings may be placed.

No general rule can determine the conditions that form the proper objects of vital art.

It is, therefore, impossible to form general rules which shall determine, with any tolerable precision or certainty, the special mode of action and function that may be the best adapted to any particular predicament of a living being, and that may, therefore, be the proper object of art; as it is impossible, even, to define the actual predicament or vital condition itself.

Experience, moreover, instructed, as it has hitherto almost exclusively been, by the reflection, through the organs of sense, merely of the qualities of external things, without any reference to their subjective adaptation to the vital susceptibility, as it is indicated by these organs, however extensive may be the field of observation, however prolonged may be the term during which it is cultivated by individuals and their successors, and however acute and judicious may be the discrimination brought to bear upon it, can never be comprehensive and precise enough to enable us, in the midst of this infinite diversity, increasing, as it does, from age to age, and furnishing new problems for each succession of observers and experimenters, to draw exact analogies between the vital predicament of one individual and that of another; or between the conditions of the same individual, at different times: so that, even on the supposition that we had realized, in one case, the best possible result, by certain methods, the most exact comparison that we could make would leave us more or less uncertain of the issue in another case, however apparently similar.

Objective experience fallacious and inadequate.

The treatment of disease, and even the general maintenance of life, must, therefore, remain uncertain and equivocal, in every respect, except we can discover, in the animal economy, a principle that may enable us, with little less than the blindness, and yet with more than the exactness of any single instinct, to realize what Hippocrates called the "issues" of life; which can be appreciated only as, under the entire and unbiassed direction of this principle,

The treatment of disease and the general maintenance, therefore, uncertain and equivocal without an organic principle.

nature herself discovers them ; or, in other words, as they result from the combinations of animal mechanism, subject, in the most comprehensive sense, to all the extrinsic influences to which it is adapted.

It must, indeed, be a principle, sufficient, when well comprehended, and faithfully followed, to lead us safely through all the mazes of vital susceptibility, organization, and developement ; while it leaves us essentially ignorant, notwithstanding all the aids of experience, of the immediate and remote tendency of every step that we take.

CHAPTER II.

ON THE DISCOVERY OF A NATURAL OR ORGANIC PRINCIPLE OF THERAPEUTICS AND BIOLOGY.

Section 1.—On Organic Sensibility.

Having inferred, from the common facts of life, as they evince, more especially, the infinite and incomprehensible variety of its modes and extrinsic relations, and the dependance of vital phenomena equally on intrinsic susceptibility and extrinsic excitement, the necessity for a principle, instinct in the thus, so to speak, double mechanism of the animal economy, that may have an easily appreciable reference to the supply of the extrinsic agents that are required to maintain and develop life in all its possible modes and circumstances, we proceed to endeavour to discover this organic principle in the same incontestable manner; viz., by the consideration of the common facts of life.

One of the most elementary or general facts of life that we can appreciate has an evident and immediate bearing on the dependance of life, for its developement, on extrinsic influence; the regulation of which must necessarily constitute the fundamental problem of hygienic and therapeutic science and art.

This fact is the general capacity or susceptibility of

being peculiarly excited or moved by the influence of extrinsic agents.

This capacity may be said to have been variously included in the terms mobility, excitability, or irritability, contractility, and susceptibility.

Of these terms, susceptibility is, perhaps, at present, the most comprehensive, and the least objectionable ; as it seems the most simply to express the varied relations of vitality to extrinsic agency : though the use of one of the more qualifying terms may be, occasionally, convenient.

The peculiarity of this susceptibility, in each individual animal, or, in other words, the peculiarity, in each individual, of the action or motion, manifested, on the application of extrinsic agents, impels us, from the analogy of our voluntary acts, to conceive this capacity to be connected with, if not essentially dependant upon, another ; which has been termed sensibility.

Whether mobility and sensibility are, in ultimate analysis, distinct or identical ; and though the mind, by the natural process of abstraction, distinguishes them as objective ideas, they are not cognizable in any vital subject, otherwise than in combination ; the one being, mutually, the only intelligible expression of the other.

Thus, for example, it is as really impossible to contemplate the lowest vital movement, without regarding vital sensibility as the connecting link between it and its extrinsic excitant, as it is to imagine such a dissociation in the most evidently voluntary act or the highest mental exercise.

Moreover, that the suggesting analogy alluded to, is not merely superficial, we might suspect from the simple fact, that we are often, not to say, always, impelled to our most voluntary acts by impressions or motives, of which, among others that may be more directly apparent, we are made conscious or sensible, only by reflexion after such acts.

And we need not be surprised to find sensibility imagined to exist, not only in animal, but in vegetable life, when we consider that the same analogy led some of the ancients to impute all the qualities or relations of what we now call inert matter to such a capacity, and even to that of appetite or desire.

Nay, it might not be difficult to show that the entire abandonment of this ancient fancy, implicating, as such an abandonment does, an aversion to any appearance of analogy between vital and other natural phenomena, has tended, in some measure, unduly to postpone their reduction to a common category; a consummation, missed by our forefathers, and sought, in our days, with very different degrees of philosophical caution, but still, a legitimate object of developing science.

Bichat must have thought far otherwise, and must have taken a much less comprehensive view of the analogies of nature, when he applied the term organic sensibility to this capacity, to distinguish it from that sensibility which attends or characterizes consciousness; supposing the former to be at the very base of organic life, as it were, in the abstract, and the latter to be at the base of the relations of organic life to

external things : as if, forsooth, organic life could be at all known without relation to the influence of external things ; or, as if the consciousness of this influence made an essential difference in the influence itself, or in the vital susceptibility of it.

Consciousness, however distinct, or however vague it may be ; and however low it may descend, or however high it may rise in the scale of animal form, is one of the phenomena of life ; and as such, is realized only through the organic movements which result from extrinsic influence, diversely and appropriately exercised.

Nor, is this common fact, thus stated, at all really incompatible with the natural and inevitable development, by the ordinary process of abstraction, of the idea that consciousness is, as a feeling of the mind, independent, as the mind itself, of any organic movement.

With its associated, if not identical idea, that the most perfect consciousness of existence in general is also independent of any particular object or impression, it arises, by abstraction, from the variety and succession of organic movements and sensible impressions or ideas that make up, so to speak, the continuous chain of our consciousness.

All such abstract ideas are naturally and usefully made objects of mental contemplation, without any detriment, in the estimation of the philosophical analyst, to the really subjective facts of nature : to which all such mental figments, however otherwise valuable, and however unavoidable in our ordinary

trains of thought, must, of necessity, be kept subordinate, in the inquisitions of strict induction.

Locke himself seems to have overlooked this necessity, when, instead of consistently following out the doctrine of the external origin of ideas, he acknowledged an immediately intrinsic source, in the mind's observation of its own operations: whereas, the operations of the mind have no intelligible expression or representation, except in appropriate organic movements, that have essentially the same relation to consciousness as other extrinsic influences.

We do not, in fact, become conscious, by reflection, of any mental operation, until we have performed, with our external organs, an act that represents it: and it is the image of this act that gives us the idea of the mental operation: which, accordingly, we name after it: as we might instance, in the word reflection itself.

I repeat, therefore, the expression of the fact that consciousness is realized, as a vital phenomenon, only through the organic movements which result from extrinsic influence.

But, what has been termed organic sensibility is evinced only by such movements, so caused: and we are as unconscious of many of the movements of our organs that follow what we may, elliptically, call a conscious impression, or that compose what we call a voluntary act, as we are, in general, of the visceral movements which are excited by impressions made unconsciously within us.

Conscious or animal sensibility, in fact, differs from

organic sensibility, only by the mental reference that is made, with divers degrees of distinctness, through the external senses, to the external cause and *locus* of impression.

But a little consideration of the manner, so far as it is appreciable, in which we naturally make this reference, will be sufficient to shew that it does not imply an essential difference in the vital capacity or susceptibility, as such; however different may be the anatomy of the organs respectively affected.

We become conscious of an external object, or cause of impression, by virtue of the fact that the organs concerned in the reception of external impressions, and those that execute our voluntary acts, are, naturally, so associated, that any impinging impression, of a suitable character and force, immediately excites the general act or movement that is termed attention: an act, which really consists of many simultaneous or inconceivably rapid and successive movements, which result in the instantaneous association of several impressions, present or remembered, or imagined, which are, together, referred to an external object.

No single impression, of itself, or that is unassociated, could give us the distinct idea of an external object or cause; inasmuch as no object could be adequately characterized or defined by such an impression alone.

It is not really possible for the mind to use, upon any object, only one external sense; or to receive from it only one simple impression.

As to a completely new object, such can scarcely

be supposed to occur, after the mind has, by the experience of infancy, become acquainted with the common qualities of external objects: and with respect to familiar things, it is utterly impossible to avoid mentally associating the other qualities, with the one that actually impresses an organ: and we all know what a strong tendency we have, even to renew these remembered impressions by an actual exercise of the senses in succession. It is only, for instance, the cultivated man, who has full confidence in his mental associations, that can easily refrain from seeking to define his ideas by handling the objects of his attention.

But, we presume, from the absence of the phenomena, that there is no organic arrangement in our internal viscera to facilitate this kind of association, at least, in the ordinary and normal circumstances of life; and accordingly, impressions are continually exciting their sensible fibres to the initiation and maintenance of the movements that are necessary for the performance of their appropriate functions in the vital economy, without the cognizance of the mind.

The mental consciousness of the exciting impressions, which would be necessary for that of their immediate causes, to say nothing of the injury it would inflict on the vital mechanism, would be manifestly gratuitous; inasmuch as the extrinsic agents which immediately impress and actuate the internal viscera, are already admitted into the system; and are, thus, beyond our control. The use of perception or consciousness, so far as these agents are concerned, is now gone by;

while that of organic or molecular sensibility or susceptibility to impression and excitement still remains in its full force.

The difference, however, is not radical; but one that arises merely from a superaddition of organic mechanism: inasmuch as extrinsic influence or impression and resulting organic movement hold, in both cases, the same general relation to each other.

We may not be able to understand how the association I have described is elicited, or how it causes the distinctive idea of an external object in one case, while the impression that initiates a different order of association causes no such idea in the other case; but, neither, can we understand how, in either case, the impression causes the respectively necessary organic movement.

We are, moreover, able to recognize, on some occasions, an evident analogy between the two cases; as, on the one hand, in some diseased states of the internal viscera, or even in health, when very extraordinary impressions are made internally, and excite unusually violent and anomalous movements, the mental attention may be aroused, and we may, by an extraordinary association, certify or imagine a distinct extrinsic object, as the cause of the extraordinary internal impression, of which we thus become conscious.

The analogy is still further apparent in certain hypochondriacal and other conditions of disease, in which the sensibility and mobility of the internal viscera are exalted and depraved, so that even ordinary stimulants, and the habitual organic movements which

they excite, produce, not a consciousness of them as they really are, but various tormenting imaginations, whether succeeding each other, or singly persistent.

These imaginations, in fact, differ not essentially from those which are shewn, whether by common observation or direct experiment, to be caused, in certain mental conditions, and notably, in the dreams of sleep, by direct impressions on the external senses, of which the mind is partially or entirely unconscious.

Indeed, in a state comparatively little deviating from the normal, there is an appreciable sense of comfort arising from the habitual excitement and movement of the internal viscera, which is distinctly realized, only when the attention is drawn to it as it is exchanged for a distressing sense of torpor and inanity, and when it is again happily restored.

It is still, however, necessary to observe, that no definite idea or even conception, or imagination of an extrinsic object impressing the internal viscera, could be obtained, not only without the previous perception and more or less distinct recognition of such an object, or of its component parts, in external nature, but without the actual aid of the external senses; and that the internal organ, so affected, becomes temporarily, as it were, another organ of external sense; receiving impressions, and through them, exciting the required associative trains, as the external senses themselves do.

And thus, we virtually realize the conversion, not only of organic into animal sensibility, but also, of the normal series of associated organic movements, of

which we are naturally unconscious, into that of perception.

On the other hand, in certain conditions of vital susceptibility, whether in the waking or the sleeping state, impressions may be made on the external senses, and may actuate appropriately, while they are either not at all, or very tardily and imperfectly, referred to their objects or causes.

In such circumstances, it is not easy to discern any essential difference between these impressions and consequent actions, which are, ordinarily, attended with consciousness, and the impressions and movements that secretly take place in the internal viscera; even though the anatomist may shew that different organs are, respectively, affected.

Conscious sensibility is, then, either essentially the same vital capacity as organic sensibility; or the latter is a misnomer, arising from the analogy of the resulting movements with those which attend conscious or animal sensibility.

It was, accordingly, very easy for Van Helmont and Stahl, and their respective followers, to impute all the results of organic or internal sensibility, as well as those of conscious or external sensibility, to *one archeus, anima*, or soul, just as some of the ancients had imputed the two series of results to *two* distinct principles, both virtually, though diversely intelligent.

In reality, however, we know nothing of vital sensibility, whether in vegetables or animals, independently of the movements which are excited in their organs by the influence of extrinsic agents.

As to the supposed essential distinction between the two kinds of vital sensibility, we can appreciate it only in the extremes. The more evident a motion towards or from any external source of impression becomes, the more we are apt to attach the notions of consciousness and volition, after the analogy of our own feelings.

It is, accordingly, very difficult for a person who first sees the sensitive plant turn away its leaf from the heat of his finger, to resist the idea that the plant is conscious: and the philosopher himself would, assuredly, realize somewhat of the same difficulty, if he could see the millions of little movements which take place, in all its parts, in the processes of absorption and assimilation.

We get rid of the notion, only on discovering the extrinsic causes that excite the movements: as, on the other hand, we retain the necessary sense of our own consciousness, or identity, and liberty, by virtue of the double effect of the associative mechanism I have alluded to, in enabling us readily to gain a distinct idea of *one* external object or cause of impression that induces us to act, and thus preventing the mental distraction that would accrue, if the infinite number of insensible impressions which really actuate us were to crowd upon our notice at once.

Section 2.—The same, continued.

We may, then safely assume that life is characterized, in general, by one peculiar susceptibility, capacity,

or quality; viz., that of being excited or moved by extrinsic agents in a manner peculiar to itself.

We may also safely assume that this susceptibility is, essentially, the same, whether the extrinsic agent or moving cause is perceived or not; or, in other words, whether the living being is distinctly conscious, or not, of his own existence; that is, of the aggregate of movements that are excited and maintained in him by extrinsic agents.

Perception, or consciousness, (both of which terms may be said equally to represent varying quantities) does not destroy, or radically alter these movements, or the essential relation of life to extrinsic agents; but, rather, extends them, and but formally diversifies them.

It is apparent that we thus arrive at a similar general abstraction to that of Brown's excitability; which differs, as we have before seen, from all previous abstractions of the vital principle or nature, as it directly refers to the main fact of life, its manifestation and support by extrinsic agents; while all previous abstractions exclude this main fact, in favor of an intrinsic power, of which we have no independent evidence whatever.

It was a great advantage of Brown's abstraction, as we have, before, had occasion to observe, that it directed attention, at once, to intrinsic susceptibility and extrinsic influence; but it signally failed, as we have seen, in certifying the resources of art; (which was Brown's great object) as he erroneously supposed it to express all the variety of the individual modes of

vital relation to the influence of extrinsic agents ; or, in other words, all the real variety of the qualities of external objects, as they affect living beings.

Brown's abstraction was, therefore, as essentially impracticable as any of those ancient hypotheses which are so signally condemned in the Hippocratic book on ancient medicine ; and which resolved the causes of disease, and the qualities of remedies, into warmth or cold, moisture or dryness, or some other equally brief and compendious expression ; neglecting all other more apparent and sensible qualities with which these are naturally combined ; and to which the operation of remedial agents, as well as of the causes of disease, is more evidently attributable.

It is, certainly, desirable to regard life as consisting of an unique principle, manifested or supported by virtue of an unique influence from extrinsic agents ; that we may be enabled, amid all the varying circumstances of life, to keep steadily in view the harmony of all vital processes and of all the extrinsic agents that maintain and develope them.

Life, in all its modes and relations, may, with strict propriety, be considered as an unit : but an unit at once infinitely divisible, and maintaining a comprehensive analogy among all its parts.

While, on the one hand, the observation of individual differences in natural facts is necessary to prevent the abuse of general ideas which are derived from the comparison of individual resemblances ; on the other hand, the formation and steady retention of general ideas are necessary to render experience avail-

able, and the conduct of life at once prompt and consistent.

Now, as organization, or a regular arrangement of parts, is necessary for the manifestations of vital susceptibility, even as we see it in the lowest zoophyte, with its apparently unique relation to the element and the spot where it is placed, it increases in complexity, as we rise in the scale of animal life, in the same proportion that the specific relations of the animal to external nature extend and multiply.

And in the same proportion, the capacity of consciousness or perception, (using these terms as synonymous) becomes distinct from the mere vegetable or organic excitability which characterizes the comparatively unvaried and limited life of the lowest order of animals.

Though the capacities and susceptibilities of an animal, as they may appear to us distinct from each other, are not, of themselves, as is supposed by some, an equivalent indication of the number of organs with which the animal is endowed, they are enough to make us anticipate, in general, appropriate organic arrangements, though these may not always be discoverable by the knife of the anatomist, or by the most powerful microscope.

The omnivorous capacity and inclination of man indicate appropriate organic arrangements in the whole digestive and assimilative apparatus; some of which have, undoubtedly, yet to be discovered: and with equal truth it may be said that man's comprehensive mental faculties indicate appropriate organic arrange-

ments in the nervous, and perhaps, in other parts of his frame, though they may not all be discoverable by the knife of the anatomist; and though our metaphysical distinction of the faculties may not be, in any wise, commensurate with the number of parts required for their manifestation.

On the other hand, if we find, in an animal body, a part, the use of which is unknown, we feel assured that it indicates a particular developement of vital susceptibility, or, in common language, some real use which we have yet to discover or appropriate; so true is it that the developement of vital susceptibility and that of organization are commensurate.

We may, then, safely infer the following proposition: as organization indicates the susceptibility of vital relation to external objects, so organic sensibility is the index and the measure of this relation, however varied it may be, in species or individuals, from the simple susceptibility of the zoophyte, to the distinct and manifold consciousness of man.

But, as organic sensibility varies with each mode of organization, as it respects species and individuals, it must also vary with every temporary change or affection of the organization that occurs in the same individual; and as really, in the changes from infancy to manhood, nay, from morning to evening, as in the changes of the chrysalis, the worm, and the fly.

And, as each change of the organic sensibility, considered as a vital phenomenon, is inductive of all that follow in the vital series, and as the evolution of all depends, at once on intrinsic tendency and extrinsic

influence, the organic sensibility, as it is gradually and successively affected by extrinsic agents, must indicate the gradual and successive natural changes in the extrinsic relations of the organized body, in every stage of their progress; or, in other words, the agents that are requisite to promote them.

Moreover, this must be true with respect to all possible states or modes of vital organization and susceptibility, whether normal or abnormal, in health or disease.

Section 3.—On the Organs of Sense.

But, all extrinsic agents, as they affect an independent or detached organized body, must, first, impinge or make their impressions on its external surface: and accordingly, we find the surface and outward parts of all animals, not to say of plants, specially adapted to receive, and, if we may so speak, to appreciate them, nay, even more or less to modify them, before they penetrate, either wholly or in part, into the more interior organization.

As we rise in the scale of animal life, we observe the sensibility to vary in different parts of the surface: and these differences of sensibility are often, if not always, indicated by the presence of particular organs, or particular modifications of organs, adapted to receive and modify certain kinds of impressions only.

These are the organs of sense; the outworks of animal life; the scouts and purveyors of the interior

organization ; the ever-vigilant sentinels that guard the animal citadel from injurious intrusion, and admit all that is necessary or useful to life. Their very place suggests their probable use.

I will not attempt to tell their real number : suffice it to observe of the organs of feeling, as an instance, that when the mind is attentive, it readily determines, not only the particular object, but the precise part of the whole skin which it impresses.

And it may be stated as a general fact, that the external senses are sufficient to appreciate all the external objects that can affect us and that are more or less controllable ; such as light, heat, the odorous and other modifications of the atmosphere, and the tangible characters of more solid bodies.

Such as are not directly appreciable by them, if there are any such, are appreciated indirectly, in combination with others that are more directly evident. And thus, immediately sensible qualities practically represent to our minds, in common life, others which may be within or beyond the compass of the most refined analysis : our particular sensations, thus, often concisely and promptly indicating the most comprehensive general facts.

The phenomena and circumstances of malaria and of infectious and contagious diseases would amply confirm this statement, by showing that, however imperceptible and inscrutable may be their immediate causes, the attentive mind is sufficiently warned, to say the least, of the possibility of their presence and

operation, by concomitant impressions made on the external organs of sense.

Moreover, our external senses also enable us to appreciate directly the condition of our own organs, so far as it is immediately subject to our controul; the sense of fatigue or uneasiness, for instance, being one general expression for the perceived inaptitude of all our organs to continue in voluntary or active relation to their appropriate impressions and influences.

But, we proceed to observe that the organs of external sense are integral parts of the composite organization: and therefore, their sensibility is, at once, intrinsic in its character, and dependent on extrinsic influence.

With respect to the former part of this proposition, I may cursorily remark that, though the general analogy of human susceptibility is sufficient to enable us to compare our sensations with those of our fellow-creatures, and even with those of other animals, and in general, to refer them to the same objects; yet, extreme differences in this respect, not to mention other considerations, authorize us to infer that no two individuals, and scarcely even the same individual, at different times, receive precisely the same impression from the same object: as would more readily appear, to the great interruption, if not entire prevention of social intercourse, if we had not the natural advantage of receiving multifarious impressions from one object, as a means of certifying our perception of it.

As to the latter part of the proposition; viz, the

dependance of the sensibility of our organs of sense on extrinsic influence; this is sufficiently evident in the effects of habit in modifying the tolerance of external impressions; to form, as we shall, again, have occasion to notice, a plausible popular objection to the use of the external senses as hygienic and therapeutic guides.

Moreover, a familiar and compendious illustration of both the parts of the proposition, as well as of the manner, before alluded to, in which the organs of sense, not only receive, but modify the impressions impinging upon them, is afforded by the changes and reversals of sensation, caused by successive affusions of water of the same actual temperature; not to mention the differences of sensation experienced from the first affusion, by different individuals, or by the same individuals at different times.

On the whole, we may state as a universal fact, that the external organs of sense are naturally appropriate, in every species, and therefore, in every individual, to the specific and individual character of the interior organization and its extrinsic postulates; or, in common language, to the wants of the animal: not differing, in this respect, from other organs that are avowedly but not more manifestly so adapted.

Section 4.—On the Origin of Ideas and Mental Modes in External Impressions.

The impressions made by extrinsic objects, on the external organs of sense, form the extrinsic basis, and

initiate the developement of all the ideas, emotions, wishes, appetites, and desires, in one word, of all the mental modes, of which, as conscious beings, we are naturally or intrinsically susceptible.

All our mental susceptibilities and capacities, like all other vital phenomena, depend, for their development and manifestation, equally on intrinsic susceptibility and extrinsic influence.

If it were otherwise, mental affections, which are entertainable or cognizable, only as modes of the organic sensibility, which we have seen to be the general characteristic of life, would constitute a solitary exception to the great law, which we have so frequently illustrated, of the dependance of vital phenomena equally on intrinsic susceptibility and extrinsic influence: an exception, moreover, not in the least necessary to be made, in favor of the idea of the mind's essential independence of organization; since, this idea, vitally important as it is, is fully secured, for all its legitimate uses, by the natural process of abstraction, before alluded to; a mental process, the results of which form only a superficial pretext for the denial of the relation between mental affections and extrinsic impressions, which we here assume as an indisputably common fact of life.

We conclude, therefore, upon the natural fact, that the impressions made upon the external organs of sense supply the mind with the extrinsic elements of all its requirements or wants; or, to speak in a more philosophical language, external impressions upon these organs initiate the developement, for the maintenance

and extension of organized life, of all the modes of perception and volition of which there is an intrinsic susceptibility.

All the capacities of the mind that are thus developed through the senses, from the reception of the simplest sensation or idea, to the most complex emotion or desire, have, in fact, a more or less evident reference to the maintenance and developement of the vital organization and of its external relations.

My limits will not allow me to enlarge, at present, in illustration of this important fact: and I can only observe that it is not incompatible with the habitual and natural use of the mental faculties without any intentional reference to the maintenance of life, nor even with their abuse to the evident derangement of health and destruction of life: as we may understand when we reflect that we habitually and naturally, eat, drink, and sleep, with the same indifference to the maintenance of life, and also abuse these vital functions, more commonly so called, to its destruction or derangement. The maintenance of life and health is not indeed naturally, however paradoxical the proposition may seem, a direct object of mental attention: and, if I may so far anticipate, any system of hygiene, of medicine, or of ethics, is essentially faulty and unnatural, that makes it such.

Independently of the extrinsic and accidental causes which affect them, all mental capacities vary as really, though not so fundamentally, with the organization, in individuals, as they do in species; having, so to speak with Hippocrates, their natural issues in a more especial

set of organs; which are affected, as all the other organs are, by external agents; and which form a most important part of the entire circle of vital organs which maintain and support each other not only in the manner common to each species, but appropriately to each individual.

But, the capacities of the mind are supported and regulated entirely, if this has not been already sufficiently expressed, by a reference to the initiatory or elementary impressions made on the external senses: for, though we might, perhaps, conceive of other parts or susceptibilities of the living system being maintained by extrinsic agents, without the cognizance of the senses, over whose organs they pass, or of the mind, we cannot, for a moment, imagine the exercise or developement of the faculties of mind without sensation: or, rather, we imagine it, only after we have gained the notion of these faculties through the senses.

We infer, therefore, that the susceptibility of the external senses to external impressions is the natural basis of all the faculties by which the supply of the extrinsic pabulum or excitement of life is regulated: a proposition which I deem to be the first and only stable foundation, not only of natural medicine, but of natural ethics; as it is, indeed, of all human science.

Section 5.—On the Will, as it is influenced by External Impressions.

We now proceed to observe that the life of a con-

scious being is naturally maintained, and developed, so long as consciousness or perception continues, in harmony with, and by the aid of, that resultant faculty or mode of mind, if we may not rather say, that sole generic mode of mind, which is termed volition or will; and by which, when it is suitably excited and developed, we perform all the movements and acts that are required for supplying the wants of the system, and for extending its external relations.

The capacity of will is intrinsic in certain forms of organized life, and strictly appropriate to each individual and species, on the one hand, and dependent on extrinsic excitement, on the other hand, as we have seen of all other vital phenomena.

It has, when at all developed beyond its most rudimentary form, an evident reference to a more or less enlarged series of extrinsic relations or vital requirements: for, our conception of it is unavoidably associated with the power and necessity of locomotion, and with the capacity and necessity of receiving various kinds of extrinsic impression or excitement.

Its objects may always be said to be extrinsic to the principle of life, even when it refers to parts of the organization itself; inasmuch as all our organs of which we are cognizant through the senses, are perceived by the mind as independent of itself and of the radical principle of life; or in other words, in the same manner as more remote things.

The sense of will cannot, therefore, be developed in a definite form, or characterized by a reference to a distinct object, except in consequence of extrinsic

impression; though a contrary notion intuitively arises, in the mind, from the natural process of abstraction, after the repeated performance of voluntary acts under the impulse of such impressions.

The impressions which thus define an act of will must be made upon and through the external senses; the susceptibility of which we have seen to be appropriate to the actual organization, even in its inmost recesses.

The resulting act of will must equally depend on these impressions, and on the intrinsic susceptibility or tendency: for, independently of the general consideration of will as a vital phenomenon, it is a fact that a more or less different act of will results, in different individuals and species, and at different times, from the same external causes of impression: and it is, also, a fact that, though we are distinctly conscious of the result, or of the external part of the act, that is visible, or otherwise perceptible; and though we may feel that it is agreeable to our will, this result is induced as the last of a series of organic movements, of which we are utterly unconscious, but which are initiated or excited, and sustained, by the influence of the extrinsic impression on an appropriate susceptibility.

It would be vain to object that our will is often excited, not by an impression on an external organ of sense, but by memory or imagination; except it could be shewn that remembered or imagined ideas are, originally, the offspring of the mind, or of the internal organs, directly or indirectly unmoved by appropriate extrinsic impression.

It would not be difficult to shew, if our limits allowed, that even the ideas of memory are specifically dependent, for their developement as such, not only on extrinsic impressions that are past, but also, of necessity, on an actual extrinsic impression that initiates, excites, or suggests an appropriate train of recollections; memory, thus, strikingly evincing the agency of extrinsic impressions in permanently modifying our being and relations; and in preserving, by thus connecting the present with the past, the very sense of our personal identity. By the aid of memory and imagination, volition attains, indeed, its highest developement as a vital agent; all its results being, thereby, consistently and harmoniously modified and combined, according to the constitutional type of the individual and the species.

It would also be vain to object to the necessary dependance of our will on extrinsic impressions, that we have instinctive impulses arising from our internal organs; except we could shew, in the first place, (not to mention the fact, before stated, that the organs themselves are extrinsic to the principle of life,) that the impelling or exciting organs are themselves independent of extrinsic excitement for their actual condition; and secondly, that any definite sense or act of will, having, as it must, a reference to something extrinsic, can be caused by an impression made on the internal organs, (of which impression, be it observed, we are naturally unconscious, and which, by supposition, is essentially intrinsic,) without coincident or previous impressions, made on the external organs

of sense ; and more or less distinctly perceived by the mind.

But, to take a single instance, in illustration : the fact is, that we are excited to draw our first breath, and to take our first food, which may be said, however rudimentary as such, to be our first voluntary acts, not only by a certain state of our internal organs, but also, by the external impression of the air and of other bodies, conspiring to initiate an appropriate series of organic movements, before we have become conscious of our existence.

Nay, it may be truly said, that we never perform a voluntary act, to which we are not, in part, thus instinctively excited by external impulses of which we are as unconscious as we are of many of the resulting movements.

But, to resume our induction : motion of the parts concerned in voluntary action is essentially necessary, in some form or other, to every conscious being. In other words, the exercise of will is absolutely unavoidable by an animal that has a natural capacity for it ; as is true of the relation between capacity and action with respect to all vital functions ; though a contrary notion is naturally generated by experience of the varied modes and degrees of such action ; of which, though no one mode or degree in particular is necessary, some mode or degree of each function is essential to the specific integrity of life.

Thus, to speak by an instance : the exercise of mind as a generic vital function, is unavoidable, so far as there is a specific capacity for it.

It is, accordingly, impossible for any animal, naturally so endowed, to live entirely without the more or less developed consciousness of external impressions; which is the first element of mind.

The internal functions, more especially termed vital, as they refer more immediately to assimilation, may, perhaps, continue, for a brief space of time, without the slightest consciousness; but all experience evinces that the vital excitability is soon exhausted, if it is not renewed by the influence, among others, of more or less indubitably conscious impressions.

We feel, then, a power of choosing the act we shall perform: but, the choice we make depends, as do all other vital phenomena, equally on the intrinsic tendency and the extrinsic excitement or motive; the kind of action being, so to speak, chosen, and felt to be voluntary, that is, agreeable, while the action in general is unavoidable; even abstinence from a certain kind of action necessarily implying action of another kind.

We may be said, even, to feel that to be a matter of choice, which the necessities of the organic system compel us to do: as, for instance, in the efforts that we make to breathe, when any difficulty is opposed; though, in ordinary circumstances, respiration is performed without the direct notice of the mind; that is, independently of direct volition.

In fact, we do voluntarily, whenever we direct our attention to it, that which is congruous or agreeable with the actual susceptibility of the organic system; though we are essentially ignorant of the principal

elements of this susceptibility, and equally so, of the organic mechanism by which the experienced congruity is realized.

We have, indeed, no natural or possible indication of this agreeable congruity, (if we may so combine a popular and a philosophical term,) except in resulting movements, feelings, or sensations; which, as all our voluntary acts, or acts in which the will takes a part, refer to the vital use of extrinsic agents.

It were, in fact, impossible that we should voluntarily maintain life, (which must, necessarily, be so maintained) by exclusively painful impressions: and therefore, the supposition of such a vital condition, as it has been indulged in by learned and very amiable writers, may be fairly classed with such fables as that of Ixion; from which all volition in this direction is consistently excluded by the supposed indestructibility of life.

Animal life, then, being naturally sustained and developed by extrinsic excitement, which is furnished, in a great measure, by the voluntary acts of the mind; inasmuch, moreover, as painful impressions cannot permanently actuate a conscious mind; and as the mind can determine the aptitude of external things to the ever-varying condition of the internal organization only by the aid of the external senses: inasmuch, finally, as the vital relation of extrinsic impressions and the evident external movements which they excite to the susceptibility of the animal system is not essentially altered by the fact that they are, in certain circumstances, subject to the cognizance and controul of the

will, we may conclude that the susceptibility of the external senses to perceptibly pleasant or organically congenial impressions is, either to the subject himself, or to other conscious beings, a natural indication of the extrinsic postulates of the living system.

And in this expression, we realize the first and fundamental form of our artistic proposition.

Section 6.—On the Use and Abuse of Association.

But, as each of our external senses is specifically adapted to receive only one class of extrinsic impressions, and as we could not be definitely conscious of any single quality, or appreciate body by any one sense exclusively, we naturally try the effect of external things that attract our attention upon all our senses in succession: and we find, by experience, that the specific impression made upon each sense separately guides us in determining how an external agent is to be applied to the maintenance of our life; one object, or one part of it, being, perhaps, applied only to the surface, to propagate its subtle influence, through appropriate organic media, to the innermost recesses of our organs; while another object is introduced into interior receptacles more in gross: not to mention things that minister more especially to the excitement of the mind.

But, notwithstanding the variety of our external organs of sense, so mutually analogous is the susceptibility of all, from its representing the unique, general

susceptibility of one organic system, that we naturally imagine, until experience teaches the truth, that the concrete object which pleases one sense will also please another and all: a supposition which is, at least, one of the natural excitants of our curiosity to examine all the qualities of external objects; and without which, we could not become adequately acquainted with their vital uses; or, in other words, with the capacities of our own being.

We retain, throughout life, this natural disposition to associate the use of the senses; or rather, to infer the effect on one sense from the effect experienced on another: and, not to mention its absolute necessity for perception, before alluded to, it affords us a great natural facility in the general recognition and distinction of external objects from each other, and in the discovery of their several qualities; nay of the capacities of our own being, as they are modified during the natural progress of life and by extrinsic circumstances.

But this inferential disposition, thus natural and useful as it is, is too apt to be abused, so as to cause, in conjunction with other associations, the comparative disuse and neglect of our external senses in general, instead of promoting their vigilance and accuracy as vital purveyors.

Contrary to what is too generally supposed, infants and young children, completely unsophisticated by the prejudices and conventionalities of society, are much less apt to commit this inferential abuse than their elders; as their mental associations are, comparatively,

yct unformed; and, as all their knowledge of the qualities of external things has yct to be derived from actual and repeated experiment.

Thus, though an infant will directly apply to the tongue any thing that pleases the eye or any other organ of sense, it unerringly determines its congenial or uncongenial relation to the sense of taste; which it, yet, as naturally and as quickly observes, as it does the relation of objects to the other senses.

This accuracy is, unfortunately, as we advance in life, apt to be destroyed by various causes: of which I may summarily enumerate privation; the recollection of pleasant, and more especially, of painful impressions, made on any of the external senses, or on the internal organs, or on the mind in general; the confidence we naturally and conventionally place in those with whom we are variously connected; the experience of disease and of its real and apparent causes; and finally, the voluntary or necessary attention we devote to more or less exclusive objects of pursuit; and to the conventional or natural duties of our social position.

Without descending, then, to trivial illustrations, and reserving for another occasion, a fuller consideration of this important subject, I proceed to modify our proposition thus: the susceptibility of the external senses to perceptibly pleasant or organically congenial impressions *from their severally appropriate objects* is, either to the subject himself, or to other conscious beings, a natural indication of the extrinsic postulates of the living system.

Section 7.—On Appetite or Desire.

So far, then, as we can controul the extrinsic elements of vital excitement, we naturally choose and apply them as they are agreeable to one or more of our senses: and, though we are often obliged to be content with less pleasant excitement, we still aim at obtaining that which is agreeable so far as may be in our power.

But, we have seen that our will, the great mental agent of life, and directly, or indirectly, the great regulator of all the vital functions, the general generator of life, is excited, or initiated, and developed, fundamentally, by impressions made on the external senses.

But, will is only a mode, or rather another term, for appetite, or desire; which can be defined, as it refers to external objects, only by the experience, or perception, or remembrance of impressions made through the external senses.

Moreover, the apparent movements that are naturally excited by the application or incidence of external impressions to the organs of sense in certain conditions of unconsciousness, have often as definite a signification, in reference to these impressions, as the desires and appetites have in the most perfect state of consciousness.

They are, in fact, the most natural and unqualified expressions of the desires and appetites themselves; being restrained, or otherwise modified, in the various conditions of consciousness, only as the desires and appetites themselves are.

They, accordingly, indicate the congeniality or incongeniality of the impressions which excite them to the organic susceptibility which may characterize or accompany any state of unconsciousness just as really as the desires and appetites indicate similar relations of the impressions which suggest them to the organic susceptibility which may characterize or accompany any state of consciousness.

Thus, we again modify our proposition: the susceptibility of the external senses to perceptibly pleasant or organically congenial impressions from their severally appropriate objects; *and the appetites or the animal motions which are respectively suggested or excited by their perception or remembrance, or incidence, are,* either to the subject himself, or to other conscious beings, *natural indications* of the extrinsic postulates of the living system.

Section 8.—On the Mutual Influence of the Senses and Appetites or Desires on each other.

We have, hitherto, considered the external senses, principally, as they may be supposed to be used separately, or to receive separately their severally appropriate impressions; their association having, in a foregoing section (6th) been alluded to only as it is apt to be abused, so as to prevent the appreciation of the actual susceptibility of each sense.

We have, hitherto, thought it convenient to neglect

any influence which imagination or such association may really have on the actual susceptibility of any sense; our object hitherto having been simply to guard against its effect in preventing the accurate perception of such susceptibility: to which, of whatever causes it may be the resultant, we would more especially direct attention.

But, the actual susceptibility of each sense is affected, not merely by the impressions made immediately on its own organ, but also, by impressions made on the other senses, in a manner which it is now much more directly to our purpose to notice; and which must, of necessity, be included in the vital principle we are evoking.

If we consider perception, rudimentary or complete, to be, as we have before intimated, equally a vital necessity with extrinsic impression, of which it is only one of the results, we shall find, in the known effects of attention and habit on the more purely mental capacities and susceptibilities, which are thereby made variously to preponderate over each other, an exact type of the effect of the same causes, operating in the relative application of extrinsic impressions, on the relative susceptibility of the organs of sense, and on the relative developement of the appetites or desires that represent it.

So that, as we can determine, in any individual, the typical relation of the more purely mental susceptibilities and faculties to each other, only by the exercise of all according to the natural law of successive suggestion, whatever that may be; so, neither,

can we determine, of the actual susceptibility of any sense, or of any actual desire or appetite which may express it, that such is its appropriate typical condition, while the susceptibility of any other sense is undetermined, and while its representative desire or appetite is ungratified.

And, thus, we may understand how an exorbitant susceptibility and appetite may require to be indirectly, as well as directly diminished or sated; and, on the other hand, how a deficient susceptibility and appetite may require to be both directly and indirectly developed or increased: all our natural susceptibilities and appetites thus developing and moderating each other, so that all our organs may be maintained in harmonious sympathy; and that none may suffer from excess or defect of excitement.

It was no ignoble conception of Brown's, that life consists, in each individual, of a certain *quantum* of native excitability, or, as we term it, susceptibility, that requires to be normally exhausted by extrinsic stimulus.

He only erred, in this direction, by attempting to measure this quantity and the law of its exhaustion by an indefinite rule of excess and defect that has no certain relation to its natural index.

The variety of our organs of sense, and of the external objects that may agreeably impinge upon them, clearly indicates the general necessity of a variety of extrinsic impression, adapted, as we have seen, to an incalculable variety of intrinsic susceptibility; whatever may be our conception of its relation to this vital

postulate; whether, for instance, of exhaustion, development, or other affection.

However close we may suppose the analogy between the different organs of sense, and however far we may imagine them mutually to supply each other's place in the vital appropriation of extrinsic impression; however far, even, we may attempt, with some, to imagine one sense to receive specifically the same impressions for which another is more naturally adapted, it still will remain true that the normal evolution of vital susceptibility, generally and specially, is promoted only by the normal use, and, if we may speak in popular language, the mutual aid and counteraction of all the external senses, not to speak of other faculties with which any species is endowed.

The limits of this normal use of each and all the organs of sense cannot be strictly defined. We can but gradually approximate to them by the increasingly comprehensive application of all our faculties in the most favorable circumstances that we can imagine to be gradually developed for our race.

Meantime, it may be observed that all partial views of the objects of human pursuit and of the sources of human happiness, however, in succession, they may exceed those which precede them, must, of necessity, fall short of this consummation.

We have, however, sufficiently developed our proposition from the common facts of life, to be able to infer with certainty what the dire experience of past times is daily forcing on society, that the susceptibilities or faculties of man are best developed in the midst of

circumstances which tend to engage his mind in the acquisition and multiplication of pleasant and useful impressions, rather than in a direct and constant struggle to avert those which are disagreeable and injurious.

All real advances in civilization must tend to approximate man, not to mention other living beings that are associated with him, more and more nearly to that condition of social liberty, in which he would be free to follow the natural laws according to which his desires are developed in harmonious succession, as each impression or series of impressions elicits a change in his susceptibility; instead of being compelled systematically to resist its fiat.

It is a well-known fact that the privation of one sense is apt to promote a compensative acuteness in other senses, and even in certain mental faculties, more especially so-called: but, who would voluntarily exchange the precious gift of sight, and the "holy light of heaven, first-born," for the intensely acute feeling and hearing, the retentive memory, and even the brilliant imagination, of the blind, whose "orbs roll in vain to find the dawn"?

It is also a well-known fact that the habitual and almost exclusive use of any organ of sense, or of any limb, or of that limb in a particular series of movements, tends to cause a preponderant activity and growth of the parts so used: and it is true that excellency is often thus attained in particular arts: but, how cramped and enfeebled are all other parts and faculties apt to become!

And thus it is, also, with those who devote themselves exclusively to any specially mental pursuit; whether it be for the private gratification of their own exclusive taste, or of their ambition or avarice, or even for the general good of mankind.

All such are well known often to pursue their exclusive object despite of privation, pain, and disease; and to sacrifice to it many of the best qualities and faculties both of mind and heart, if not life itself.

But, still more miserable is the lot of him who toils incessantly for wealth; while he virtually condemns and even stultifies his present neglect of his capacities for rational life and enjoyment by the avowed hope that he may, thus, secure their proper use in mature, or in old age; either of which he may thus wantonly prevent himself from attaining; or, which is worse, if he chance to outlive, for a time, his wish or his power to add to his treasures, he finds too late that all the avenues of enjoyment, of comfort, and even of ease, are more than hermetically sealed, and he is tormented, alike, with the disgust of life and the fear of death.

And thus, we once more remodel our proposition: the susceptibility of the external senses to perceptibly pleasant or organically congenial impressions from their severally appropriate objects, *as such susceptibility and impressions are mutually modified*, and the appetites or the animal motions which are respectively suggested or excited, *and mutually modified in connection with the perception or remembrance, or incidence, of such impressions*, are, either to the subject of

them, or to other conscious beings, natural indications of the extrinsic postulates of the living system.

Section 9.—On the Vital Aid naturally afforded to Man by his fellow-creatures ; and on the Influence of his Social Susceptibilities and Desires.

We have, hitherto, considered the impressions on the external organs of sense, either as casually incident, or as applied by the unassisted will of their subject, except in the condition of mental torpor or unconsciousness ; in which we have supposed them to be either casually incident, or to be humanely applied by the will of another conscious being.

We have, also, hitherto, considered the resulting desires or appetites, as arising independently of the suggestion of any other individual than the subject of them ; spontaneously, as is commonly said, in the mind of him who feels them.

But, conscious, or living beings, or, at all events, those of our own species, are seldom, and certainly never according to the order of nature, left in this isolated predicament.

All our mental faculties are, naturally, assisted by those of our fellows ; without which to aid them, not only in helpless infancy, and old age, but at all the intermediate stages of life, they are really inadequate to the natural or normal maintenance and development of its phenomena.

The vital mechanism of a conscious being would be

as incomplete and as inadequate for its purposes, even of individual conservation and developement, without the aid of other beings similarly constituted, as it would be, without extrinsic agency or influence in general.

Man requires, for the preservation and evolution of the natural capacities of his being, as they depend on extrinsic impression—infininitely varying, as we have seen it to do, with his susceptibility, and derivable, as we have seen it to be, from all climes, and from all the kingdoms of nature,—man requires to be put in relation with all these sources of life, not merely by the use of his own faculties, comprehensive as they are, but also by the congenial aid of other spirits who can sympathize with him in his diversified susceptibilities, capacities, and desires. Nay, he is dependant, not only on those whom the natural and casual advantages and circumstances of life constitute his elders and superiors, but equally on those who are, on the other hand, his juniors and inferiors. It is not man as an isolated individual, but man in his natural condition, as a social being, and as a citizen of the world, that makes all nature contribute to his maintenance, developement, and elevation.

There must then be a natural law of mutual obligation, by which this assistance is secured ; and by which mankind, not to speak of the inferior animals, are associated together for the general maintenance and developement of human life.

Accordingly, we find that, in connexion with this vital necessity of social co-operation, and by virtue of

an evidently intrinsic and appropriate susceptibility, not to speak in the plural, there are developed desires or appetites, which, from their prompting and regulating the conduct or manners of mankind towards each other, have been significantly termed moral; and which are as naturally developed by the impressions that are made on our external senses, comprehensively regarded, as any other desires or appetites that seem, to the superficial observer, to have a more directly and simply individual reference.

That our moral, or, as they may be otherwise designated, social impressions, desires and appetites, have a natural relation to the maintenance and developement of individual, as well as social life, is evinced by the fact, which none will gainsay, that they tend to modify, in every way, whether of increase or restraint, the other impressions, desires, and appetites, to which, as more apparently personal, and as forming a sort of natural basis for the superstructure of our social susceptibilities, we have found it convenient, hitherto, more especially to advert.

It would not be within the scope of my present purpose to dilate, either, on the one hand, on the natural mechanism or process by which this modification of our more immediately individual by our social susceptibilities is accomplished; or, on the other hand, on its ultimate results in individuals, and in successive generations, whether in the way of improvement or deterioration.

On the former subject, I would only observe that the mental and physical process is the same as that by

which our more immediately individual susceptibilities themselves modify each other as well as those which have a more directly social reference; the relation of all being equally reciprocal.

It involves all the immediate and remote conditions, phenomena and results of the mental state or act called attention, as this is concerned in the cognizance taken by the mind, in all the varying modes and circumstances of life, of all our susceptibilities, desires, and appetites, separately and collectively, actually, as well as retrospectively and prospectively considered.

On the latter subject, viz. the ultimate results of this reciprocal influence of our individual and social susceptibilities, incalculable as they are, I would only, at present, observe that this influence is a necessary condition of the continuance of individual life, as well as of the human race, to which even the most selfish man more or less submits, however he may attempt to limit and circumscribe it; and of which the best individual and social results can be realized only as society is organized so as to allow and promote its free development; or, in other words, the free development and maintenance of all the most desirable forms of life and mind.

We are now, therefore, prepared thus again to modify our artistic vital proposition, so as to include this reciprocal influence of our more immediately personal and our more directly social susceptibilities, desires and appetites; or, in other words, the vital aid naturally afforded to man by his fellow creatures: the susceptibility of the external senses to perceptibly

pleasant or organically congenial impressions from their severally appropriate objects, as such susceptibility and impressions are mutually modified; and the appetites or the animal motions which are respectively suggested, or excited, and also mutually modified, in connexion with the incidence, perception, or remembrance of such impressions, whether casually, independently, or socially induced; are, either to the subject of them, or to other conscious beings, natural indications of the extrinsic postulates of the living system.

Section 10.—On the Law of Social Life, and the Relation of Man to his Creator.

It is, at once, apparent that the natural influence of our social susceptibilities and desires, to which we have adverted, is sufficient to obviate the objection that might, otherwise, lie against the doctrine of the maintenance of life by pleasant impressions on the external senses, that it tends to foster sensuality and selfishness.

It may, however, be of advantage to consider this objection more directly; as such consideration may lead to a more correct estimate of the real relation of pleasant impressions to the human mind, and to a better understanding of the compatibility and mutual dependance of the physical and moral developement of man.

We may, however, premise that this objection can scarcely, even by the most fastidious, be imagined to

apply, when the immediate problem is the reduction of acute disease ; to which the memorable words of the Coan sage are more especially pertinent ; implying that, to meet the frailty of life, the tardiness of art, the transitoriness of opportunity, the uncertainty of comparative experience, and the difficulty of discrimination, requires, not only the skill of the physician, but the acquiescence of the sufferer, with the diligence of the assistants, and the orderly disposal of all that is necessary for his relief. Surely, he must be selfish, who can deny the claim of such a sufferer to the exclusive sympathy of all who can assist him, in such an hour of pain and peril, when his natural faculties are insufficient to meet the exigencies, even of his own existence ! Surely, it will be enough for him to think of others, when he has escaped the impending danger, and when he has himself realized their sympathy in the hour of need ! The humane treatment of acute disease is, thus, surely, calculated doubly to enlarge, instead of contracting, the sympathies of human hearts !

It is, then, only in the conditions of chronic disease, and in the buoyancy of health, that the objection we propose to consider can apparently lie. And here, also, we shall find it to be equally untenable ; and that the principle on which life is naturally maintained and health restored, in these circumstances also, tends to multiply and define the mutual sympathies and obligations of mankind : if, indeed, we may not at once assume that a principle, which is pregnant with good during the brief duration of acute disease, must

necessarily be, if accurately applied, more largely and permanently useful to all whom it affects, when its application is varied and continued through protracted disease and the whole course of life. There is, indeed, much more scope, during the long-continued palliation of chronic disease, for the exercise and development of all the virtues which are variously embodied in the patience of love, on the one hand, and in the gentle humility of gratitude, on the other hand: and who will say that the principle which puts forth all the charities of humanity, when the mind and body are enfeebled by disease, shall become a principle of moral depravation, when it is happily applied to make life buoyant with all the associations and capacities of health?

It is true, we have, hitherto, adverted, more especially, to the immediate congeniality of sensible impressions, as the fundamental element in the voluntary maintenance of life; and have endeavoured to inculcate the necessity of a critical appreciation of them as they are distinguished from each other by this relation to the organic susceptibility; the pleasure of the senses, thus, seeming to be urged as the immediate and habitual object of the mind.

But this could not be avoided while we were under the necessity of guarding, as in section 6, against the vague appreciation of this relation, which is too apt to be caused by the abuse of the natural tendency to associate the impressions made on one sense with those made, by the same object, on another sense: a caution intended to shew that the actual congeniality

of any impression to the organic susceptibility may be as accurately determined as any of the other qualities or relations of external things; and moreover, to distinguish between the more immediately vital use of the external senses, which it is our more especial object to demonstrate, and that more general and better recognized use of them in the acquisition and definition of ideas, which is at once founded on their more immediately vital use, and necessary to make this adequate to all the varied requirements of animal life, as it is maintained and developed equally by nature and by art, or, to speak more correctly, by the will of the conscious being in association with his fellows.

We have, accordingly, attached importance to the rectification of our desires and appetites by this accurate determination of the sensible impressions to which they severally refer: and while we have, further, shewn that no one susceptibility or desire, or the relation of any one impression to it, can be duly estimated, except as it is modified in connection with all other susceptibilities or desires, and all other impressions that are naturally related to them, we have, still, directed our attention specially to the final result of the actual relation of each impression, after all possible qualifications, to the sense, susceptibility, and desire, to which it more directly refers. And thus, while we have included in our estimate, not only the susceptibilities and desires of man, as an individual being, and the impressions which more directly refer to them, but also, all those susceptibi-

lities, desires, and impressions, which pertain to him as a being necessarily connected with others, we have still urged attention to the final result of all modifying influences, as it is discoverable, by reflexion, on the feelings which pertain to him more especially as a separately organized existence.

But, the simple perception of organic congeniality, to which we attach so much importance in the determination of the vital relations of external things to the animal economy, though it is, really, a resultant of so many elements and of the most comprehensive association, is very different from the complex feeling of pleasure and desire, which is excited in the human mind by a congenial or agreeable impression, from the consciousness of which, the mind is more or less distracted by others, with which it is variously associated by memory and anticipation, as well as by direct organic sympathy and suggestion.

These associations, whose influence we guard in the manner which we have endeavoured to describe, so that they may not obscure the simple perception of organic congeniality, which is our primary object, are, in other circumstances, the direct cause of pleasure to the human mind: and such a preponderance, even, do they naturally gain, when not so guarded, over the fundamental or initiating organic susceptibility, that, in the best constitutions, and the most enlarged minds, this organic susceptibility, while it attracts only the slightest and most transient attention, is, at once, developed, and reduced to its proper condition as the natural but secret source of the highest and

most refined susceptibilities, emotions, and desires. And this is true, even, of all the impressions on the senses which are naturally and appropriately associated with that which may be considered to be, more especially, at the basis of each associated series respectively; and while they aid materially in the production of the social and moral result, they are, themselves, reduced to the predicament of secondary objects of the mind, if not lost sight of altogether.

There are, in fact, in man, as in all conscious beings, two fundamental forms of organic susceptibility, which may be said to be, separately or conjointly, at the basis of all the susceptibilities which, as they are diversely developed and associated, put him, as a social and moral being, in harmonious sympathy with animate and inanimate nature. These are the organic susceptibility or capacity of assimilation, and that of generation. The latter is, indeed, only the natural complement of the former; extending and diversifying its associated results; and especially, contributing to the developement of sympathies, which connect man not only with his cœvals, but with his fellows of all preceding and succeeding generations. But, how small and insignificant, as an object of the mind, is the sensible organic basis, on which so vast a superstructure is reared! How can the human mind, that is able to contemplate this great superstructure of intellect, of social and moral sentiment, of voluntary effort and endurance, with all their natural objects and effects, be imagined to grovel in the enjoyment of any

merely sensual pleasure, or the gratification of any merely animal appetite?

Man is naturally identified, by his susceptibilities and desires, with all conscious beings whose relations to himself he can more or less appreciate; and in proportion to the accuracy with which he learns to estimate these relations, and the more habitually he keeps them, as thus determined, before his mind, the more certainly does he realize, at once, all the pleasure and advantage of which he is individually susceptible, and all that he can communicate to others. The fulfilment of the moral obligations which he thus determines to be within the limits of his natural capabilities, he feels to be congenial with all his physical desires and appetites: for, his conviction of such obligations is as real as these desires and appetites themselves; and the desire to fulfil them which such a conviction excites, cannot be thwarted without greatly deteriorating, or even altogether destroying, any enjoyment which the gratification of physical appetite is naturally adapted to procure. Moral desires, in fact, being equally with physical, natural to the human mind, must be equally sources of pleasure, when gratified, and equally sources of pain or dissatisfaction, when thwarted; and as one general bond of sympathy unites equally all the organs and all the susceptibilities of a conscious being, the mind cannot be imagined, at any moment, to realize its actual capacity of enjoyment, nor the organic system its actual capacity of beneficial impulse, from any one impression, the influence of which is felt to be uncongenial

with that of any other impression which is at the same time made upon the organs, or of which the mind entertains the idea.

It is by virtue of this general sympathy, that man is naturally disposed, and more or less able, to regulate all his desires by each other, and to adapt all to his real position, not only as a sentient, but as a social and morally responsible being.

The laws and customs of society, the maxims of the moralist and the sanctions of religion, restrain his physical and more individual appetites, only as they express in a convenient form for his habitual apprehension, the social and moral obligations which he feels to be as pertinent and congenial to his nature as these ; and he learns increasingly with age and experience, not only to develop all his natural capacities and desires, but to keep them all duly in mutual subordination and subserviency to each other.

Each individual is characterized, as truly as each species, by virtue, not only of differences of circumstances and cultivation, but also of natural differences of constitution, by appropriate differences in the relative developement of all his susceptibilities, whether considered separately, or as ranged under the two classes, so-called, physical and moral. Nor can we with certainty define the limit within which, in individuals, any one susceptibility, or either of the two classes, can be, on the one hand, restrained and cramped, or, on the other hand, indulged and developed, to the detriment of others, by the continuous influence of circumstances, or by the habitual

exercise of the will, any more than we can determine the limit which is put to such differences, by original constitution, as we find it in the idiot-born, and in the strongly-marked hereditary temperament, on the one hand, and the individual who is ushered into life with a well-tempered disposition of all his elements and organs, on the other hand. But, it is, at all times, proper for the physician, as well as the moralist, to impress on the attention of those who are under his influence, the voluntary power which they have, while they retain the consciousness of a sane mind, to subordinate all their susceptibilities and organic impulses to the moral obligations by which they are actually bound. Nor will the virtuous mind be disposed readily to consider itself released from these obligations, whether voluntarily or circumstantially induced, by any momentarily apparent physical incompatibility. The general fact of the maintenance of life by the voluntary appropriation and adaptation of extrinsic influences to the ever-varying susceptibilities of the organs, while it implies the perception of a natural relation between extrinsic influence and intrinsic susceptibility, which is essentially independent of the will, and on which the will itself may rather be said to depend, at the same time, involves, by virtue of the variety of these influences and of the modes of susceptibility, a power in the will to modify and controul the relative developement of vital susceptibilities and of organic conditions, which is not the less felt to be real, because it is not absolute and unlimited. It is by virtue of this power of the

will over the developement of life and its susceptibilities, that all the relations of society are maintained inviolate, and that man is enabled to regulate the most commanding impulses of his nature in accordance with them. Even the terrors of law make their appeal to this power; however impotent they may be, when all other motives are neglected, and when, by the ignorant selfishness of rulers and classes, it is strained beyond its utmost limits. We readily acknowledge and admire this power, as it is evinced when life is at once sacrificed on the shrine of duty or affection; but we are too apt to leave it unnoticed, as it is much more commonly exemplified, and even more highly developed, while the vital organs and capacities are slowly wasted by the dutiful and affectionate endurance of labor and penury. But, if life is to be counted as nothing, when it is in competition with duty, affection, and honor, so neither will the virtuous man fear to confront, for them, any form of privation or suffering by which his body, or even his mind, may be enfeebled or diseased.

But, the magnanimous endurance of such evils, when they are clearly ascertained to be unavoidably implicated in the accomplishment of great objects, with which, by their vivid perception, we may feel ourselves identified, is very different from the vain and gratuitous suffering and privation, which is too often imposed on man by his fellow-creatures, or even by himself, from some paltry or wicked motive.

A motive, accurately comprehended and strongly and steadily felt, is shewn, by the very fact of such

comprehension and feeling, to be more or less congenial to the capacities of its subject; and is, therefore, naturally adapted to maintain and develop these capacities for its own entertainment, modifying the condition and susceptibility of all the organs, at once in accordance with itself and with their natural type. A human being, therefore, under the commanding influence of such a motive, while he vainly, but honestly, endeavours to bring all mankind under its influence, in the same manner and degree as himself, though he can never accomplish this, may succeed unconsciously in promoting a far greater result, in the adaptation of the motive which so powerfully sways him to the circumstances and capacities of all who differ from him. And thus, great principles, after being, on the one hand, extremely conceived and adopted, in accordance with extreme susceptibilities, and inconsiderately repudiated, on the other hand, as discordant with diametrically opposite dispositions, are ultimately assimilated to all the varieties of human mind and capacity. And happy will it be for man when philosophy shall truly appreciate this progress in the mental assimilation or developement of truth, and shall be competent to assert her place intermediately between the two extremes, so as to become, not merely a passive spectator of the moral storms which are raised for the destruction of error, but a gentle spirit to controul, guide, and reconcile the conflicting susceptibilities and passions of men! Meantime, it behoves us to beware of indiscriminately denying the value of any assertion of

principle, honestly made, however inapplicable such assertion may be beyond a limited range of individual susceptibility. The compulsory enforcement of such a partial assertion is not more injurious, nor more likely to succeed with those for whom it is in no wise adapted, than its violent and uncharitable denunciation is likely to be successful or beneficial with those to whose actual conditions and susceptibilities it is congenial. The human mind cannot strongly entertain a principle in accordance with its individual constitution, without yearning as strongly to engraft it on the minds of others: and, among all the diversities of human susceptibility, such is, nevertheless, their general analogy, that it is as naturally adapted to enlist and band together a class devoted to its support, as it is to move a single individual in its favour. No man needs long to stand entirely alone in the world: and while he honestly and simply uses the magnetic influence of his own convictions and feelings to win men to them, he deserves not the censure of those who may reasonably fear the consequences that would accrue from such convictions and feelings, if adopted by themselves and others allied to them by susceptibilities to which such convictions and feelings are naturally alien. It is only when individuals and classes of men are constrained, in any manner, to adopt or profess principles and habits with which they have no constitutional affinity, that we need to apprehend hypocrisy, and general depravity of feeling and conduct, as its natural consequences.

Such, indeed, must necessarily be, to a large extent,

the results of any system by which mankind are, with little appropriate discrimination, induced entirely to repudiate the gratification of any one natural appetite, professedly from the influence of motives which cannot be entertained in equal force and simplicity by men of widely different capacities and susceptibilities. It is impossible for all men, or all the men of a class, aggregated, as they must be, by various motives extraneous to that by which, as a class, they profess to be moved, to feel its power to be adequate to the entire subversion of any natural propensity which is duly, not to say extraordinarily, developed in them : for, this propensity is felt, by them, to be as natural as the motive by which it is vainly sought to eradicate it : or rather, the assertion of the motive which they are required to make is, at once, in their minds, condemned as unnatural by its unqualified opposition to the impulse which they cannot entirely repel. The motive may, at times, be acknowledged in its full force, when it is aided by the painful effects of excess : but the recollection of these is only temporary, however frequently the experience of them may be repeated, until the particular susceptibility is naturally or prematurely exhausted. For, though total abstinence from the indulgence of any extreme propensity is often the most convenient expedient as a temporary means of opening, to feeble and uninstructed minds, a more comprehensive view of their susceptibilities ; and though such self-denial may be no mean virtue in those who exercise it, not because they need it, but as an example and incentive to those who do ; the principle

of entire mortification can never, of itself, or while it is persisted in as the principle of conduct with respect to any one natural appetite, develope in the mind the true and enduring principle of moderation and temperance, which rests on the comprehensive and habitual recognition of all the natural susceptibilities which, by their mutual relations and suggestions, prevent the excess or depravation of any.

And if this is true of the repudiation of one natural appetite, it must be still more so of the entire mortification of all the natural desires and appetites which some systems have undertaken to impose. For, though a few peculiarly constituted individuals may, perhaps, be found, in whom all the physical appetites are so little developed that they are readily amenable to the influence of a principle by which they are represented as naturally opposed to the higher aspirations of the mind, these are, really, rare exceptions to the general law of human nature; and we may confidently anticipate what experience confirms, that, with all the aids of infectious example and sympathy, nothing better is realized, by a great majority of the professed devotees to such an exclusive principle, than the superstitious depravation of all the faculties of mind and body.

Indeed, evil arises alike, from the two opposite principles by which the gratification of the physical appetites is constituted, in itself, a vice on the one hand, and a virtue on the other. For, they are simply attributes of our nature, which, when duly regulated, serve to promote purposes which are beyond ourselves,

but the accomplishment of which we recognize as obligatory upon us, by virtue of other susceptibilities and desires, which are not less attributes of our nature than the physical appetites themselves. The object of all virtue is essentially beyond ourselves; being the preservation of the unity, so to speak, of the universe, by the voluntary performance of the part allotted to each conscious being, however small it may be, and however incapable he may be of appreciating it in all its relations. .

To provide, therefore, as our circumstances, capacities, and natural inclinations, prompt and enable us, for the due gratification of the appetites, or, in other words, for the happiness, of our fellow creatures, is virtuous in ourselves, as it is in them similarly to provide for ours; and any notion of virtue short of this can only serve to deprave all our susceptibilities and desires, by rendering them more or less sensual and selfish.

While, therefore, we pay only a passing attention to our own physical appetites, it behoves us, under the impulse of our social and moral desires, to provide strenuously for the gratification of those of others, as the natural foundation on which to rear the moral superstructure of social virtue.

Our physical necessities must, indeed, be first supplied, in a greater or less degree, either by ourselves or others, before the mind can be made free for the developement of its social and moral susceptibilities: and accordingly, sincere and enlightened Christian charity has always been characterized as at once cheering the bodies, and

warming the hearts, of the poor and destitute; while sleek and selfish hypocrisy has, in vain, preached devout resignation and self-denial to the cold and the hungry.

Not that poverty, or privation, or destitution, and high moral excellence are essentially incompatible: but, surely, He was the best adapted to preach resignation to the poor, who had not "where to lay his head;" and He, surely, marked the character of his true disciples, who were for ever to season the earth with the salt of his doctrines, as well as the natural impossibility of realizing them among the rich, when He directed one to shew the sincerity of his attachment to the truth which He taught, by following Him, when he should have sold all that he had, and given it to the poor.

But, such is the natural difficulty of realizing the true medium, in which all our susceptibilities are reduced to their proper proportions, and yet, so essentially does the true elevation of our moral desires and purposes depend on this, that the two opposite principles by which the gratification of the physical appetites is constituted, in itself, a vice on the one hand, and a virtue on the other, have always tended alternately to sway the minds of men. Accordingly, the gods of the heathen have been imagined directly to favour the gratification of the appetites and passions, which the tyranny of man is too apt to prevent, while the God of the Christian has, on the other hand, been, perhaps, superstitiously enlisted to repress the licentiousness that has ensued.

The ultimately evident effects of excess preclude the permanent general adoption of the atheistic license which leads its victims to repudiate all supposed relation, direct or indirect, between virtue or vice, and the gratification of the physical appetites : to which, by a melancholy reversal of the natural order, all the social and moral susceptibilities of our nature are rendered subservient : and man approaches, as nearly as possible, to the condition of an entirely selfish and sensual being, without natural affection, as without God, in the world.

Man is ushered into the world in a condition of entire dependance on his fellow creatures, without any natural power to reciprocate the good offices which he requires from them, and even without the consciousness of receiving them, or, at all events, of the goodwill and affection, or other motive, which prompts their performance.

But, he gradually learns to associate his wants with the agreeable impressions which he receives and with those who supply them. The smile with which he, at length, seeks his mother's breast, is suggested by that with which she offers it to him, and represents the same kind of feeling and wish in both ; the only essential difference being in the result of one receiving and the other supplying the grateful pabulum of life.

That the mother is adapted, by her actual susceptibilities, to feel the same wish as her sucking child, and that she is not, on the contrary, distracted from it by personal pain, is only an indication that kind nature is, without her knowledge, ministering to her own

wants and to the developement of her own frame, as she is supplying the wants and promoting the growth of her helpless infant. The mother and her infant are equally unconscious of this organic congruity ; and if there is a selfish feeling, it is on the part of the innocent nursling alone : or, if we suppose the happy mother to direct her attention, for an instant, to the physical comfort which she realises, she shews, as she presses her infant to her bosom, how completely this feeling is absorbed in more exquisite associations. The smile of her infant, as it sinks to sleep on her bosom, comes, gradually, to represent to her mind her own feeling of good-will and affection ; and this, accordingly, becomes enhanced with the developing capacity of her infant to recognize and reciprocate it. Her imagination does not, indeed, ultimately deceive her ; for she is, in due time, rewarded for all her generous devotion by very intelligible indications that she has developed in the heart of her nursling a grateful sense of her affection, a tender attachment to her person, and a generous sympathy with her feelings, which will enlarge and strengthen with the growth and habit of years ; which will increase, with the power of reciprocating her good offices, and will finally be the most completely evinced, when, in after life, the infantile relation of entire dependance shall be utterly reversed, and a second childhood shall seem to have no other natural purpose but that of developing the richest fruits of human sympathy, and of demonstrating, beyond all dispute, the real bond of human society.

The germ of the natural principle of social communion is thus developed in the first helplessness of infancy; and the natural and affectionate interchange which takes place between mother and child is the only legitimate type of the intercourse of society in all the subsequent stages of life. And happy, indeed, would man be, if, in all the relations of society, he could always regard this natural and fundamental type of social obligation with reverence and unflinching confidence, as the true pattern to which he should conform all his feelings and actions!

Our own organic conditions and susceptibilities, however complicated they may be, and however directly unconscious we may be of them, like unto the mother's teeming breast, and her infant's expanding frame, dispose and direct our attention to the agreeable impressions which we are adapted to receive from each other, or, in other words, to our mutual relations as living beings.

But, we as naturally refer all that we experience from living beings to them as its cause, to the neglect of that other essential element of life and sensibility, on which we have had occasion so often to dwell, viz., our intrinsic susceptibility, as we refer to the intrinsic nature or qualities of inanimate things all the effects which we feel from them, without considering how much our sensations represent our own organic conditions, as well as the conditions of the things which we perceive.

But, the idea of volition, or, to use another term, of affection, which might be shewn to be involved in

it, is naturally associated with the impressions made upon us by conscious beings like ourselves; and the wish to promote our happiness is as naturally referred to those of our fellow-creatures with whom we are congenially related, as we refer to inanimate things with which we are similarly related, the qualities which adapt them to our use.

We feel it, in fact, to be as much, as we say, in the nature or disposition of such conscious beings to promote our happiness, as the qualities which adapt inanimate things to our purposes are felt to be natural to them. It is manifestly alien to the unsophisticated human mind to regard the tokens of good-will and affection which we receive from our fellow-creatures as having a reflex reference, as it is to regard in such a light the impressions which are made upon us by inanimate things. Our impressions are, alike, in both cases, referred, objectively, to ourselves, and subjectively, to their extrinsic causes; and it is only by virtue of this natural reference that we discern the objects or causes of our perceptions as extraneous to our own being.

It is, therefore, again, equally natural for us to accommodate our wishes and feelings to those which we discern in our fellow-creatures, as it is to regulate them by the apparent qualities of the inanimate things, to the influence of which we are necessarily subject. Our wishes are, in both cases alike, exact models, as it were, or imitations of the perceived dispositions or qualities, whether of conscious beings, or of inanimate things, to which we are related; and

the ultimate object of the highest philosophy, moral and physical, is only the developement of this natural and more or less inevitable tendency of the human mind to sympathize with external nature, as all the productions of art are only its varied results.

But, to accommodate our wishes to those of our fellow-creatures, or, as we have said, to imitate them, is to minister voluntarily, affectionately, and simply, to their susceptibilities and wants, as we naturally feel they do to ours. Our wishes are, in fact, prompted by theirs, and therefore made accordant with their susceptibilities, as theirs are with ours; and thus, we not only learn more accurately and comprehensively to estimate our mutual relations, but we affectionately promote their mutual developement and our mutual capacity to fulfil them. All unnatural violence that we might, otherwise, be disposed to do to the feelings of our fellow-creatures is thus averted, with all selfishness; while each, virtually neglecting or postponing his own happiness to that of others, promotes at once the highest happiness and virtue of individual and social life. Nor is any deviation from this natural law of social life, however common it may be, scarcely more common or less absurd, while it is certainly far more inimical to the true interests of man, than the vain attempt to make the properties and mutual relations of inanimate things bend to our wishes, instead of forming our wishes, and projects, and arts, in strict accordance with them.

Nay, we may much more easily comprehend the tendency of man to regard inanimate things as the

merely passive instruments of his will, and thus, to be involved, by its waywardness, in the most careless and prejudiced observation of their qualities and mutual relations, than his disposition to regard all conscious beings, not excepting those of his own species, in the same unphilosophically wayward and selfish spirit. The entire subjection of man's will to the properties of inanimate things is apparently, on the one hand, so alien to the natural sense of the freedom of will which pertains to every conscious being, and to the seeming plasticity of inert matter, on the other hand, that its steady perception can only be realized by the highest exercise of philosophical analysis, as it defines the real elements and limits of man's artistic capabilities; whereas the will of every conscious being, whether agreeing with, or differing from our own, is not less manifestly intrinsic and characteristic; and we can only conceive of the attempt of man to tyrannize over his fellow-man, or, in other words, violently to thwart his will, without any mutual accommodation, as a reckless extension of his habitual treatment of inanimate things, or perhaps, more directly, of his treatment of other animals, whose inferior intelligence seems to make their will less independent and more passive than his own, and to ally them, in their subjection to his caprice, very closely to stocks and stones.

The wayward selfishness of untutored or depraved man, may thus, as experience proves, establish for itself a false analogy between the will of conscious beings and the properties of inanimate things; a

direct counterpart of that real analogy which becomes apparent when a comprehensive view is taken of the mutual relations of life, consciousness, and volition, on the one hand, and of inanimate nature, on the other hand. When such a view is taken and adequately impresses the mind and heart, the will of human beings, instead of appearing as such essentially uninfluenceable, is seen to be, while equally appropriate, naturally more pliable than the properties of inanimate things; and a spirit and habit of mutual accommodation is generated, which, instead of leading each to imagine that his own will must be exclusively paramount, suggests its natural subservience to that of others, and thus multiplies indefinitely the congruities and combinations of human, not to say of all conscious, volition and susceptibility.

This natural analogy between the use of living beings and that of inanimate things, and this philosophical manner of moulding the qualities of both to our wishes, by conforming our wishes to them, was not insignificantly indicated by the Stoic philosopher, to whose suggestions Bacon must have been more directly indebted than he appears to have been aware or willing to confess, and who took a much more comprehensive view of the bearings of inductive philosophy than that which many of the modern followers of Bacon have been able to gain from him. Marcus Aurelius, in fact, very distinctly indicated the natural connexion of physical and moral philosophy, which have been, in modern days, too much disjoined, and that of our individual and social susceptibilities,

which we are at present more particularly considering, when in the truly inductive spirit of the Stoic school, as in accordance with the law of Christian fellowship, he said, "Adapt thyself to whatever business falls in with thy lot; and the men with whom thou mayest be associated, love them, and that sincerely." (lib. VI, § 29.)

All the susceptibilities of mind and body, social as well as individual, require not only to be developed, but to be maintained, by exercise and the influence of appropriate circumstances. The great problem of life, for an intelligent being such as man, is to guard as far as possible, against the unduly engrossing influence of the circumstances with which he is actually surrounded, and of the feelings and impulses to which he is actually disposed. It is only by such attention, that man can hope to approximate to such a regulation of his necessarily changing susceptibilities and desires, as will keep them, at all times, in tolerable harmony with the social system of which he forms a part. His power to work this problem successfully, as it is incessantly varying in expression, increases with the exercise of his faculties upon it; and if he is favored with an originally good constitution of body and mind, and with an advantageous position in society, procured for him by his progenitors, in which his constitution has been and is at liberty to develope, and if withal, he takes a uniformly comprehensive view of the problem of life, he may realize, at every stage of life, the results of individual health and happiness, and of unequivocal subserviency

to the good of his fellow-creatures, not only of his own times, but of future generations. And however, within certain limits, his original constitution may be feeble or depraved, and however disadvantageously he may have been, and may still be, placed for its improvement, the great vital problem is still before him, and is always approved by the natural laws of mental suggestion, which are never entirely repudiated by the conscious mind. Man, in fact, is continually, as a conscious being, the subject of successive impulses and desires, which are more or less felt to develope, or to counterbalance and check each other, and which, as they succeed each other, give appropriate form to the consciousness, not only of his individual existence, but also of his relation to other beings. Life is always more or less felt to be a subject of contention between desires which, as they severally first intrude themselves on the mind, seem to assert an exclusive right of gratification ; and this contention settles into the peace of equanimity, not when any one has gained the exclusive mastery, and entirely silenced all the rest, which cannot really happen, even in the most depraved of men, but, when all are, as it were, linked together in one associative series, and mutually suggest and define each other. A depraved constitution of body and mind, developed in unfavourable circumstances, or specific forms of disease, or strongly and permanently exciting circumstances, may more or less dispose to the vicious predominance of certain susceptibilities and desires, and these may be aggravated by habitual gratification and practice, and by the habitual repression

of others which should keep them in check ; but, the essential distinction of moral right and wrong, which is based on the necessary succession of susceptibilities and desires which characterizes all consciousness, is never entirely unperceived by the mind. Nay, the very extreme and violence of passion is apt more readily to induce the natural remedy of exhaustion of susceptibility, and the consequent evolution of an opposite state, which is thus rendered more distinct to the mind by the contrast. And thus, for instance, while we may charitably excuse the anger of an irritable man by alleging his natural constitution or his peculiar circumstances of provocation, we may, as justly, and as usefully to himself and others, remind him that he errs against a peculiarly strong and distinctly suggested motive and desire of his conscience, for calm and peaceful forbearance. And truly, we may, with more reason, admire the self-control of the constitutionally irritable man, implying as it does, the most arduous exercise of his mind in the solution of the vital problem we have alluded to, than excuse his wanton neglect of it, while his motives for attention to it are so peculiarly distinct and stringent. The repression of anger and resentment is, indeed, so evidently a universal necessity of life, that it may well be conceived to have afforded to the mind of the Stoic philosopher the original type of his comprehensive precept of the general subjection of man's will to the positive laws of his own being and of universal nature.

Now, it might be difficult to determine whether the obstacles which beset the practical and general solu-

tion of the vital problem we are considering, are greater or less, as regards the mutual adjustment of our more especially individual desires, on the one hand, and our more directly social impulses on the other hand, than those which obstruct the mutual adjustment of our more especially individual desires among themselves. The division of our susceptibilities and desires into the two classes of individual or private and social is far from being absolute or strictly natural ; as they are so intermingled, in the real economy of mind and life, that our most private susceptibilities and desires are incomplete without an appropriate reference, more or less distinct, to our fellow-creatures ; and entirely solitary enjoyment without any mental association, or, in other words, without social reference and modification, is a natural impossibility. Man, not to say every other conscious animal, is naturally a social being, not only in the midst of society, and in the most enlarged condition of his mind, but in the most complete privacy, and in his most sensual degradation : a great fact of conscious life, by virtue of which, man's imagination peoples the most solitary desert with living beings to satisfy the social yearnings of his soul. Nor is the mutuality of influence and dependance, as it may be conceived to obtain between our social and our more especially individual susceptibilities and desires, considered as separate classes, absolutely distinct from that which obtains between our individual desires, or between our social desires, respectively as such. The natural dependance is, on all hands, such that no single susceptibility or desire

of either class can be realized in its true form and degree, without the suggesting or developing, and the restraining influence, not only of those of its own class, but of those of the other class. In other words, man's being can be duly developed and maintained only as one indivisible and harmonious aggregate of susceptibilities and desires which make him conscious of an individual existence indissolubly bound not only to those beings with whom he is in immediate and apparent connexion, but to a universe, at once within and beyond his ken.

The difficulty of solving the great vital problem must be, on all sides, virtually equal, so far as it depends on the will of man. To man, indeed, as a finite creature, its complete solution without the occurrence of any form of error or evil, must be naturally impossible; and though we have always, of necessity, the problem before us, and though our own faculties, with those of our fellows, and notably the resulting faculty of will, in which are comprehended all our desires and appetites, are necessarily the instruments of its solution, for the due use of which we are naturally and sensibly responsible, we can never be imagined to be capable of determining the exact and ultimate relation of our will to that of the infinite Creator and Disposer of all things, nor, consequently, the exact and ultimate extent of our responsibility; involved, as this is, in our infinite relations to the universe, by virtue of which, the consequences of all our actions are infinite as itself or its Author.

The universally imperfect fulfilment of the great

social law does not, therefore, invalidate its authority as the great law of life, any more than the consequent failure of man, in all past ages, to realize uniform and perfect health, virtue and happiness can be said to annul these as the natural motives of vital development. A true principle of human life can approve itself as such only as it is adapted to the natural conditions of man, as progressively developing at once individually and socially, as susceptible of immeasurable variety, and as necessarily subject, at all the stages of his individual and specific existence, to error and evil. The natural developement and applicability, therefore, of such a principle can be limited only by the experience of ages equal, at least, to the possible duration of the species; and must for ever remain as an object of the human mind, to be realized only by the eye of faith, as it looks beyond the ever-changing impressions of sense and the mutations of human susceptibility to the perfect pattern of a self-existent and universal Creator, whose undisturbed self-complacence and whose impartial and unchanging benevolence are always at once within and beyond its comprehension. Human life must always be, in fact, more or less, the scene of a varying struggle between the general instinct of individual preservation and that of social communion; and it will always be equally vain to contemplate the latter as independent of the former and the former as independent of the latter. It is only by our own susceptibilities and feelings that we can ever hope to estimate those of our fellow-creatures; and it is only

as identified with ourselves, or as forming parts of our own being, thus magnified, extended, and completed by social sympathy, that we can sincerely love them and seek their welfare ; not instead of our own, but as our own. Just as, by the necessity of our nature, we cherish in succession the different parts of our own frame, and endeavor to gratify in succession our own desires, so we sympathize in succession with those of our fellow-creatures whom we more or less identify with ourselves as complementary to our own existence : and it is vain to expect of him who is, on any account, unable to realize the comprehensive or satisfactory care of the different parts of his own frame, and the comprehensive satisfaction of his own more immediate desires, but who is, on the contrary, unduly and painfully engrossed by any exclusive appetite, to extend his sympathies to others without feeling his own being as in danger of being torn asunder rather than enlarged and completed. The selfish tendency of man's mind is successively more or less obviated by the natural associations of sex, of offspring, of kindred, of familiars, and of civil communities ; and with these he sympathizes and identifies himself in succession and in various degrees, as they successively and appropriately develop the susceptibilities and capacities of his nature, and as he successively perceives his natural relations to them, as filling up the measure of his ever-expanding affections and yearnings. Such perception is, indeed, an extension from within, and an exaggeration from without, of his own mind and being, which can be made

legitimately and surely only in this orderly succession from and towards the centre as it were, of his own individual consciousness, and in more or less direct subservience to the promotion of his own individual happiness, though it may be, in the same magnificently selfish manner, gradually enlarged, so as to embrace with comprehensive charity all that the mind can conceive of the universe. It is on account of man's necessary and momentary dependance on extrinsic impressions, and of his necessarily and momentarily changing susceptibilities, that such a perception of his relations and such an identification of himself with his fellow-creatures is universally deemed to be, as, notwithstanding all such aids, it naturally is, obscure and uncertain; just as, on the other hand, the independent self-existence and the permanent ubiquity of an invisible God are naturally associated in the human mind, with his omniscient and unerring care of all his creatures.

Now, the philosopher who, on any account, endeavors to degrade man as a merely selfish being, seems to labor to form to himself an idea of a conscious being who shall be conscious of any thing or every thing except his own individual existence, and the impressions made on his own susceptibility by external things. Or, failing in this futile attempt, he seems to join in the more common error, to which we have had already more especially to allude, of imagining the possibility of a conscious being voluntarily maintaining his own life by painful impressions without any reference to the personal appropriation of those which are sensi-

bly congenial to him ; while he further aggravates this common fallacy by an apparent supposition of the possibility of such a miserable being strenuously endeavouring to make the life of others sensibly happy : as if, forsooth, such a being could be imagined to appreciate the desire of others for happiness, in connexion with his own constitutional indifference to it, or even aversion from it. Such a philosopher would seem, indeed, to require, for his admiration, a conscious being who should be able to sympathize with others who are constituted on an essentially different principle from himself, and that, instead of regulating his conduct to his fellow-creatures by the golden rule of doing unto others as he would have them do unto him, he should entirely reverse it. Under the influence of his disappointment with such vain imaginations, and misled, moreover, by a narrow estimate, such as we have had occasion to condemn, of the conditions which limit the natural constitution of any thing whatever, and especially of an intelligent being such as man, he affects to regard him only as he is reduced, by the general circumstances of society, or by extraordinary emergencies, to the necessity of an all-absorbing struggle for the maintenance of his individual life ; and having thence obtained, as he thinks, a key to the ruling motive of man's mind, he endeavors to discover such motive, as it too often mixes with others that appear more on the surface in the conduct of men in general, who have, truly, no substantial claim to that simplicity of purpose to which all feel themselves bound, more or less, to pay seeming ho-

mage. And, further emboldened by his success in his censorious analysis, and invidiously stimulated by the conscious echo of his own feelings and actions, he unceremoniously, in one indiscriminate denunciation, degrades the most enlarged and disinterested benevolence of the most purified and exalted minds by the imputation of selfish hypocrisy. But, notwithstanding all the difficulties which beset the general practice of the great social law, and notwithstanding the evil influence of example, under which the mass of mankind are habituated rather to its violation than its fulfilment, the natural possibility of fulfilling it is amply evinced, to the satisfaction of all who are not thus blinded to the perception of everything generous, whenever the human mind is absorbed in an effort for the immediate preservation or advantage of others, or in favor of a great principle involving more largely the welfare of mankind, which would unavoidably be rendered inadequate to its purpose by even the most momentary reflexion of the mind on itself. Nor are the instances of such absorption and heroic self-devotion of rare occurrence, whether in the passing, but awful incidents which so sensibly demonstrate the uncertainty of human life and foresight, and our mutual dependance on each other for evil as well as for good, or in the prolonged struggles for great principles which have arrayed mankind against each other, and have not unfrequently developed, on both sides, among the most selfish passions, the highest and most enlarged philanthropy.

And that such noble instances of self-devotion, remarkable as they are, indicate the true bent of the

human mind, and are proper examples for the inspiration of all mankind, is evinced, not less by the misinterpretations of envy, than by the unreserved admiration they excite when they are ingenuously appreciated; a double testimony being thus virtually given by the multitude to a moral elevation which they would gladly attain. They represent, indeed, only the full developement of that condition of mind, in which, after due deliberation on all the modifying and counteracting influences or motives that are associated in any actual predicament of life, the will is sternly concentrated and fixed on the object thus inferred and defined in bold relief. The interval between such deliberation and such definition of purpose varies, in fact, greatly, not only with the object and its circumstances, but also with the original constitution of the mind and its acquired habit. Hesitation may be so entirely, to all appearance, annihilated, that a voluntary act shall have all the force and promptness, and yet all the precision of an act that is excited by an intensely engrossing emotion or instinct. Judgment and volition are, indeed, perfected only when they have assumed this instinctive or emotional form, force and precision. And it is thus the human mind resolves and acts, not only in sudden emergencies, but in all the exigencies of protracted conflicts, when it has developed, for its inspiration, a great moral principle, from which the inferences deduced are more varied and more promptly drawn than those which the inductive philosopher draws from his most comprehensive axioms. Such a principle is, in fact, a new instinct, developed within

the mind by the exercise of its own powers, and so, not less really natural to it than those instincts which are commonly so called, and which are a native inheritance only in common with this, as results of vital susceptibilities developed under the influence of extrinsic agents, and as results moreover, no less truly than this, of the exercise of vital organs under such influence. No philosopher can ever induce, for instance, more comprehensive axioms than those which he gained in his infancy, concerning the qualities and mutual relations of things, by the instinctively combined and successive use of his external senses. This infantile use of the external senses and these results, on which, in after-life we so implicitly rely, and from which we draw so many inferences, are the instinctive types of our maturer judgment and of its inductions, just as our first cry, comparatively inarticulate as it is, is the instinctive type of the most refined language. The former are indubitable standards under which we rally as long as we live, all our perceptions of sensible qualities without; while the latter is a sign of our feelings within, the accuracy and truthfulness of which is not always equalled by the protestations of maturer years. These early instinctive acts and impulses are recognized, throughout life, as the most perfectly simple representations of human susceptibility; and all subsequent expressions of thought and feeling, and all the most matured judgments are respectively based upon them, and are the most unreservedly approved by the mind and heart when they imitate their native spontaneity and simplicity.

In fine, all our voluntary acts begin and end with instinctive impulses on which they are originally based, and without which they could not be initiated or maintained. We may, therefore, safely conclude that whenever an action, done under a strong impulse which momentarily overwhelms every counteracting influence, is unequivocally and unreservedly approved on subsequent calm consideration, and especially by the general voice of mankind, it forms a proper example to guide and sustain the will of man, in circumstances in which the motives of action are less decided and commanding, and in which the action itself cannot assume so striking a character or be followed by such apparently great results. The extraordinary incidents of life are thus seen to exercise a natural and legitimate influence on the habitual conduct of mankind; facilitating, by a sort of inspiration which makes man feel, at once, his own powers and his constant dependence on others, the cultivation of virtuous dispositions and the habitual performance of virtuous actions purely as such. Rash and vicious actions, on the other hand, perpetrated under strong impulses, whether momentary or more continued, are condemned, as not accordant with the decisions of the mind when it is temporarily freed from the thralldom of exclusively engrossing impressions, and is at liberty to yield itself to the successive and combined influences which are appropriately suggested in its actual circumstances.

And, here, it may not be inappropriate cursorily to notice the analogy of this principle of moral approval to the principle to which we have before adverted, as

applying to the estimation of the conditions of the physical functions in the diversified circumstances of health and disease. No functional motion or condition can be satisfactorily approved and tolerated, or regarded as a pattern for the imitation of art, in the maintenance of life, the promotion of health, or the treatment of disease, except it can be shewn to be the result of organic action under the appropriately successive and combined influence of all the vital agents, subject to the will of man in his social estate, which are, in the actual circumstances, indicated by the susceptibility of the senses to directly or indirectly congenial impressions; nor can the imitation, thus sanctioned, be effected, except as it is defined and regulated by the same test in the actual circumstances of the individual to be treated, and by the appliance of the means so indicated. The directly or indirectly voluntary regulation of the functions must be based on the natural principle of their organic maintenance, which includes, as one of its essential elements, the voluntary application of directly or indirectly congenial impressions.

But to return: the proper bearing on the general conduct of human life of such instances of magnanimous self-devotion as we have alluded to may, perhaps, be better understood and more readily acknowledged, if we observe that, rare as they are, they are still much more frequent than we might anticipate if we well considered the circumstances in which they are realized by beings of a complex and frail organization; tending, as these do, rather to concentrate all the

energies of the mind on self preservation than to prevent it obtruding itself as the all-engrossing object of attention.

All the organs of a conseious being, with his faaulties and powers, depend momentarily, as we have so often had oceasion to urge, on extrinsic influencees ; which neecessarily demand his attention the more imperiously as they beecome difficult of aecess, application, or regulation. Man naturally feels that his organs are aggregated together for an extrinsic purpose, to the aeeomplishment of which he aspires, however variously he may estimate it. The immediate dependance of his vital organization on external influencees is not, as such, an habitual object of his attention. Even the enjoyment and happiness which he feels in assoeiation with external nature does not seem to him a necessity of his vital organization, nor even an integral part of its purpose, so much as a contingent circumstancee, or a gratuitous demonstration of benevolence, which, with pious gratitude, he even imagines might have been withheld or reversed. His desires and aspirations naturally extend beyond such enjoyment, and beyond its mute and insensible eauses, to other objects, in the promotion of whose happiness, as conscious beings like himself, and with whose feelings and wants he ean, therefore, intimately sympathize, he imagines, for a moment, he has realized the final purpose of his eomplex organization and life. And truly his desires would rest here, if he did not discover on reflexion, that he was, thus, only promoting the happiness of beings or creatures like himself, which

he could no more imagine to be the final purpose of their complex organization, and the ultimate object of their desires, than he could of his own. Still yearning to fulfil the purpose of his being, and finding however he multiplies and extends his relations with sensible things, that he only promotes his own happiness and that of others who must be, with himself, framed for some ulterior purpose; and having, moreover, gradually gained, under the influence of his various and successive relations with his fellows, from his use of inanimate things, and his experience of the power of his mind and will over the organs of his body, the several ideas that he is something more than a merely sensible and sensitive aggregate of organs, that he is only, with his fellows, a part of a comprehensive scheme, which he cannot define, and which must have an author, of whom and of his relations to himself he can form a faint conception only by the obscure analogy of his own mind and of his own relations with his fellows, he begins to feel that the ultimate purpose of his being must merge in the inscrutable purpose and will of a universal Creator and Governor, whom no eye can ever hope to see, or mind to fully comprehend, but whom all must reverence and love as the source and disposer of all being and happiness. Beyond this the ideas and aspirations of man cannot go. Here they find their natural term, if such an expression may be applied to that which baffles every human attempt to form an adequate conception of its immensity. Such a being can only be imagined as a self-existent God, the source and essence of all that is good. And man.

is, thus, brought back to the observation of himself, as an aggregate of organs and susceptibilities, capacities and desires, by which only he can appreciate and maintain his relations to external nature, to his fellows, to the universe, and to God himself. The promotion of his own happiness, therefore, and that of his fellows, though not the ultimate purpose of his being, remains as the only natural clue by which he can hope to be led, through the labyrinth of life, to realize it so far as in him lies. But the promotion of the happiness of his fellows is, as we have seen, more approximate in the order of its perception, to the ultimate purpose of his being than that of his own as an isolated individual. And yet, it is impossible for him, at whatever stage we may suppose him to have arrived in the perception of the purpose of his being, to be indifferent to his own personal happiness; inasmuch as that is only another expression for the integrity and health of his own organization, without which he cannot exist, and act his part as an agent for the benefit of his fellows and in the general scheme of Providence. The contingencies of life, and notably the painful effects of fatigue and privation on his bodily organs and even on his mental powers and social affections, soon make him feel that he is as a complex and delicate machine, the parts of which require to be maintained in a state of due adjustment, to fit them for their functions. For a time, indeed, or during varying intervals, and in favorable circumstances, they seem to require so little care on his part that his mind is left at liberty to devote all its energies without distraction to the objects

which may appear the most deserving of its attention. The body seems, in such circumstances, to be a sort of self-acting machine which has within itself a principle of adjustment, and is at all times ready to obey the behests of the mind. Scarcely do the periodically recurring demands for food, rest and sleep suffice to disabuse the mind, engrossed with its magnanimous purposes, of this conviction of its independence and of the essential servility of its bodily organs. These and all other vital requirements are, too often, reduced, whether unwittingly or by an intentionally graduated process, as nearly as may be, to the lowest limits compatible with life; and a mind so engrossed is too apt to be obstinately blinded, not only to the manifest decay of the bodily organs, but even to that of its own powers, until both body and mind become, by such a suicidal process, so enfeebled, depraved, and diseased, that their only conceivable use, in the economy of nature and society, is to serve as a warning to others against so fatal a fallacy, and as a means of keeping alive their social affections. And it is in this sad extreme of human imbecility that we realize the most touchingly the use of these affections in maintaining life, and at the same time most clearly the necessity of recognizing, not only the natural subserviency and subjection of the body to the mind, but of the mind to the body, and the fundamental necessity, moreover, of regulating our aspirations and our ideas of the purposes of life by the capacities of life itself.

Man learns, by such experience, if not before, that,

as the purposes of life are, in themselves, valuable, the maintenance of life for their accomplishment, if not for itself, is also valuable; and the fact is forced strongly upon his conviction that he has all his treasures of noble purpose and generous affection not, as God himself, in measureless and indestructible essence, but in a material frame, of limited capacity and of weak affinities. He may, indeed, aspire after a different and higher condition of existence, and without such aspiration, he may be essentially incapable of realizing the full developement of his actual capacities and of their power and controul over the bodily organs, or even the nearest possible approximation to the perfect integrity and subservience of these; but while, on the one hand, these high aspirations require to be constantly maintained by a lofty estimate of the purpose of his being and of its subservience to the inscrutable design of the Creator, their efficiency and permanence require, on the other hand, to be ensured by the constantly humiliating restraint imposed by a frail body. Man has, indeed, a strong natural tendency to "think himself equal with God," and able to comprehend all knowledge, and to accomplish all the purposes of his waywardly ambitious mind and heart; and he requires to be constantly reminded that he has only feeble and limited faculties and organs which require his direct attention as well as his ambitious projects. To limit the aspirations and efforts of an individual to the endurance of his physical and mental capacities, considered separately or conjointly, is equally important with the general

limitation of man's intellectual enquiries and of his wishes by the ascertainable and disposable facts of nature, a limitation which may be said to be the prime requisite of all human philosophy. Man has, indeed, to watch over the integrity equally of his mind and of his bodily organs; both being equally liable to be depraved by the engrossing influence of external impressions, as well as by their privation; and he can be rescued, in some measure, from the necessity of this special care, as such, by which he is apt to be more or less distracted from the ulterior or extrinsic purposes of his being, only by regarding these purposes as commensurate in variety with the susceptibilities of his nature to congenial relations with external things, whether immediately or indirectly perceptible, or, in more common language, whether immediately subject to the senses, or more especially appreciable by the mind retired from their direct and apparent influence.

And such is really the natural condition of human life: its maintenance and development under the influence of extrinsic impressions are and will always be strictly commensurate with all its purposes, however elevated these may be, and however they may transcend human comprehension; the real or accomplishable purpose of each individual life being only commensurate with its individual or peculiar susceptibilities and capacities, whether of endurance or of effort. There is, however, a natural subordination among the purposes, as among the susceptibilities and capacities of life; and this subordination cannot fail to

be recognised as an important guide in their mutual definition and regulation, as well as an available key to their mutual suggestion. Thus, for instance, the application of organically congenial or sensibly pleasant impressions is at the very basis, and subordinate to the maintenance and development of life: this is subordinate to the promotion of the happiness of others than ourselves; and this, again, to the accomplishment of the will of God or of universal good, the culminating climax of man's aspirations and of the scope of his being. These objects of the human mind are therefore, severally and conjointly, subjects of duty only in this succession and subordination, while all are combined together by the relation of natural support and influence. If, indeed, we can, at any given point, define universal good, or the will of God, its claims, as so defined, must be paramount over all, over even the preservation of life itself: for, as such good is felt to have universal and immutable relations, its violation cannot be compensated; and the magnanimous or patient destruction of our life may, in some circumstances, better promote it than its base preservation. Accordingly, this conviction, which is essential to the true spirit of a martyr, sanctions the voluntary abandonment of life, as a sacrifice to its great purpose, the promotion of truth. And so essential is this spirit to the maintenance and propagation of truth in the world, that its development is provided for in the very constitution of man compatibly even with his inherent love of life and his abhorrent incapacity to entertain the idea of its annihilation. Man, accord-

ingly, never emancipates himself entirely from the conviction that his present form of life is the embryo condition of another, in which, however changed, he will still retain the sense of his individuality, and of the subservience of his own will and of the ultimate purpose of his being, to the design of the Creator and the plan of the universe. He is, therefore, naturally led to subordinate all his susceptibilities, desires and affections in this life to his destiny under the will of God in another ; and it is only by such a subordination, habitually maintained, that he can hope to keep them somewhat approximate to their due equilibrium. In other words, man can neither be true to himself nor to his fellow-creatures, if he do not habitually and confidently look forward to their common destiny as creatures of one God for ever. On the contrary, a mere love of life and its pleasures for their own sake, in whatever form the mind may picture them, necessarily involves a paramount fear of pain, privation, and death, which inevitably obscures all higher motives, suppresses all the noblest aspirations, and thus opposes an insuperable obstacle to the most refined enjoyments, as well as the most sacred duties; while not unfrequently, becoming unduly prospective, it ultimately destroys the life which it has long rendered, if not individually puny and miserable, socially useless and baneful. Such a mere love of life and its pleasures is itself an abstraction to which the human mind can only approximate ; no human being ever enjoying life, or endeavoring to maintain it, when he feels himself entirely and hopelessly cut off from the sympathy of his

fellow-creatures. But this abstraction, when it becomes exorbitantly prospective, is too apt to be aggravated by another, which still more effectually blinds the mind to the ultimate purpose of life and still more completely closes the heart to social sympathy; the mind being engrossed, not with the actual, nor even with the prospective enjoyments of life, but with the sordid accumulation of wealth, their conventional representative, as purely as can be imagined, for its own sake. Avarice, therefore, is diametrically opposed, as the representative of the most concentrated selfishness, to the self-denying and magnanimous spirit of the martyr, and its natural effect of entirely suppressing the highest susceptibilities of life, and of deranging to the last degree all that survive, is a miserable contrast to the natural operation of this noble spirit in developing the capacities of man for the remotest purposes of his being.

And this comparison very aptly suggests a direct reference, not merely to the immediate object of this section, but also to the main subject of our general induction. For, we have, on the one hand the most complete illustration of the baneful effects, on individuals and on society, of an engrossing or exclusive attention to certain of our natural susceptibilities and desires, which it has been our prime object to deprecate as alien to the great principle on which human life is maintained and developed, and, on the other hand, of the great individual and social results accruing from that comprehensive and habitual regard to all the susceptibilities, desires, and affections of our nature,

which it has been our object to inculcate as based on the most elementary fact of our being, and on the most essential postulate of its voluntary maintenance and development. If any individual, therefore, appear to afford a plea for the objection which we are more immediately considering, by limiting his conceptions and aspirations, in any predicament of life, to the merely direct enjoyment of sensible impressions in general, and more especially still, of any one impression or class of impressions, instead of cherishing also the higher capacities of his nature, and enlarging his external relations beyond the narrow circle of any selfish or sensual spirit, he cannot fail to be disappointed in his irrational expectation of health and happiness; and it will be in vain for him to take refuge from such disappointment in a querulous or morose attempt to abrogate the instinctive and fundamental law of conscious life, which he has so grossly misinterpreted and abused.

Section II.—On the Relation of Difficulty, Effort, and Pain, or of Self-denial, to the Developement and Maintenance of Individual and Social Life.

We have, hitherto, principally considered the pleasant impressions by which life is maintained and developed, as directly or immediately realized: or rather, we have purposely deferred the direct consideration of any natural obstacle to their immediate application or perception.

This temporary omission has, hitherto, been convenient, notwithstanding the liability, which it has involved, to the candid objection of the natural fact, that human life has to be maintained and developed, even in the most favourable circumstances, in the midst of difficulty, effort, and pain ; to which man is born, and bound to submit, and reconcile his will.

It is true we have been obliged casually to allude to these natural contingents of conscious life as they are developed under the law which binds man to his fellow creatures and to their common Creator ; but we are now after the consideration of this law, better prepared to study the manner in which they modify the appropriation of congenial impressions, and how the self-denial, which their voluntary endurance implicates, is made not only compatible with the happiness of life, but essentially contributory to its maintenance and exaltation. Indeed, if man is naturally adapted for the conditions of social life, and if self-denial, with the endurance of difficulty, effort or pain, is one of those conditions, we may certainly anticipate that it must also be a natural condition of his individual or intrinsic existence, essential to his being as the socially dependent state itself, and a necessary consequence of the general relation of intrinsic susceptibility and extrinsic excitement, as it is developed in the form of consciously and voluntarily maintained life.

All experience accordingly affirms this necessary condition of our being, as a constant result of the infinite diversity and complexity of human suscepti-

bility on the one hand, and of extrinsic vital agency on the other hand, developing, as they must, an infinite variety of modes of life, and of desires and appetites, which, though incessantly changing, require to be kept in harmony with each other, and with external nature.

Vital susceptibility is, in fact, momentarily changing; so that an impression which is, at any instant, congenial, or an object of desire, becomes, almost in the same instant, uncongenial, and an object of aversion.

It may even be said that no impression whatever is pleasant beyond the instant of its realization; since, at that very instant, commences the change of susceptibility which suggests the desire for a change of impression, or for a renewal of that impression which is fading away, and of which scarcely more than the recollection remains: the desire, in the latter case, clinging to the same concrete object or source of impression only until the susceptibility of congenial relation with that object is apparently exhausted.

And thus we realize, at every instant of our lives, the first natural rudiments of those two continually interchanging conditions which, in their extremes of full developement, are designated by the terms pain and pleasure, or aversion and desire: pain and aversion, in these their rudimentary forms, being thus seen to be always the natural precursors of pleasure and desire, as these are, in their turn, of pain and aversion.

The extremes of each condition are developed, only when a sensible obstacle is opposed to the

natural interchange thus described; or, rather, when this obstacle is heightened or prolonged to a certain degree varying with the actual susceptibility.

It is only by reflexion on these extremes that we are enabled to analyze the natural process by which the entire relation between intrinsic susceptibility and extrinsic agency is evolved; the successive steps of the process being, in other circumstances, too quickly successive, and too much amalgamated with each other to be readily discriminated.

It is, indeed, only as the sense of voluntary effort to remove an impression which has become disagreeable, and to apply another in its place, is developed in these extremes, that we become distinctly conscious of that fundamental relation between intrinsic susceptibility and extrinsic agency which subjects us to pain as well as pleasure. It is there that we learn the price at which we purchase the voluntary maintenance of conscious and social life; that natural medley of pleasant and of painful impressions, of effort and of repose, of enjoyment and disappointment.

If man, indeed, could be supposed to live without this conscious developement of the organic rudiments of aversion and desire, and of consequent voluntary effort, into their extremes, he would only live the life of a zoophyte, in spite of all his varied susceptibilities; or rather, these susceptibilities would be inconceivably diminished; and human life would be degraded below even the condition of dreamy reverie; in which modes of susceptibility and impression succeed each other with little consciousness, and still less volition or effort.

A change of impression is a fundamental necessity of life, whether it be derived from the same object or source, or from continually succeeding objects or sources : and the organization of each living being is adapted to secure it as it is constitutionally required, as well in the lowest zoophyte confined to one element as in man ; in whom it is adapted for the most comprehensive exercise of volition in the appropriation of personal impressions, and for the utmost extension of the social relations.

As the rudimentary conditions already adverted to become at all developed into objects of consciousness, the mere change of impression is associated with pleasure and desire, as the mere continuance of it is with pain and aversion ; and this desire becomes discriminative, only as the extrinsic sources of impression are multiplied with the varieties of intrinsic susceptibility.

But, a mere change of impression may be realized either from the same concrete source, or from successive sources : and not only is the susceptibility of receiving impressions from a variety of sources or objects gradually developed and increased, as we advance from the life of a zoophyte to that of man ; but, also, the susceptibility of receiving many successive impressions from the same source.

And we find human beings differ very greatly from each other in the same way, as well congenitally or constitutionally, as by reason of accidental differences : the susceptibility or capacity of pleasure from one concrete object being, in one individual, very limited

and soon exhausted ; while in another, it seems, with the aid of mental association, to be almost interminable.

And, in both these conditions of susceptibility, the most vigorous activity of body and mind may be realized : but, the contrary may, also, happen in both : and the listless indisposition to voluntary effort may, in one case, chain man down to one source of impression or to one condition of life, until intolerable discomfort indicates the entire exhaustion of the susceptibility of congenial relation with it, if some resistless impression do not meantime flow from some other source ; while, in the other case, the same indisposition to voluntary effort may make man the continual sport of ever-changing and ever casually succeeding influences from without.

In both these melancholy cases, in the change from one mode of susceptibility and impression to another, man may be said to approximate, more or less, to the involuntary condition of the zoophyte, or to that of dreamy reverie : but it is to the former that I would, now, more especially advert, as more evidently exemplifying that indisposition to the voluntary effort by which a change of impression is naturally accomplished in a conscious being, which is too apt to make man adhere to his actual condition and his actual sources of impression, however limited they may be, and however they may cramp the developement of his faculties, until his susceptibility of deriving pleasure from them is entirely exhausted, and until he is, as it were, forced away from them, if not by the interference of his fel-

low-creatures, whether of the human or other species, by the entire conversion of pleasure into intolerable pain.

The sluggard bound to his bed, in spite of aching limbs and the painful thought of neglected duties, the listless, incurious denizen of the hut or the bush, who is aroused to exertion only by the madness of hunger, he who ventures to bathe in the purifying stream only when continual scarifications fail to afford him relief, the student who idly pores over one theme until his faculties are withered with its dryness, while he is tormented with the thought of others demanding his attention, and which as he knows, from experience, would afford him pleasure in themselves, besides preparing him for a fresh relish of that to which he listlessly clings; all equally exemplify this form of mental engrossment with the fear of the voluntary effort which is naturally required for the transference of the attention from one source of impression to another.

As to the other form of this fear alluded to, it operates by exaggerating to an extreme degree the difficulty of procuring pleasant impressions from the same source, in favor of the apparent facility of realizing them from other sources: and it might be difficult to determine whether this form of error is more or less frequently exemplified in life than its opposite, and whether it is more or less inimical to the best developement of man's physical and mental susceptibilities. Both these forms of habitual error are alike designedly promoted and fostered by those who wish to warp the bias of man's constitution to

suit their own evil purposes ; while, on the other hand, all true philanthropists endeavour to prevent and correct them.

In neither case, however, does the infatuated mind soon, if ever, entirely lose the continually intruding and tormenting consciousness of being deterred, by the listless and cowardly fear of voluntary effort, from appropriating to itself all the impressions which ever, as experience shews, would be congenial to its nature and actual susceptibility, not to mention others, the prospect of which would be developed to its view. In one case, the individual clings to one source of impression, or to one condition or form of action, though his satisfaction is now prevented by weariness, and the consciousness that he is neglecting things which would be more appropriate to his circumstances ; while in the other case, even in the whirl of dissipation among ever-changing sources of impression or conditions or forms of action, the victim is continually tormented by the reflexion that the concentration of his attention on some one neglected source of impression or one urgent duty would better realize his true relations to external things.

There is, then, a normal state of susceptibility between these extremes, in which the mind is habituated to confront or overlook the voluntary effort that may be, at any moment, required for the appropriation of a new source of impression, on the one hand ; or, on the other hand, for the gaining of fresh impressions from the same source, whenever such

effort is prompted according to the natural laws of suggestion; that is, when the mind becomes conscious of an exhausting or failing susceptibility; or, in one word, when the instructed and well-regulated conscience approves it.

But, as life, in a conscious being, is necessarily maintained, as we have before noticed, by, or in accordance with, volition or will, and as difficulty, effort, and pain are, as so felt, essentially opposed to the only natural and conceivable object of desire, or motive of will, in such a being, and cannot therefore, be sought by such a being, for their own sakes, or as direct vital agents; or, in other words, as life can be desired and voluntarily maintained and developed only as a condition of happiness, actual or anticipated, these opposite states can only be submitted to as temporary, and as associated with the hope of ease and pleasure to follow them.

This association may, by the circumstances of life, and in accordance with the natural mechanism which we have endeavoured to indicate, be so developed in the mind, that difficulty, effort and pain may come to be regarded as naturally necessary causes and inductive preliminaries of pleasure and happiness.

It is, however, manifest that this can result only from repeated experience; and we can scarcely imagine a perfectly secluded or solitary human being to be so placed as to gain such experience; that is, to realize such a relation between pain and pleasure, notwithstanding the natural foundation for it which we have already described, without an actually present, or, at

least, a strongly remembered pleasant impression, to excite the effort required to overcome an opposing difficulty or obstacle: as, for instance, an impression on the sense of sight, or smell, or hearing, or feeling, the four senses which are adapted to receive impressions emanating from distant bodies; and which may, therefore, be called the suggestive senses to the taste specially, as they are to each other in general.

But, such is really the natural position of man, with respect to the impressions that are made upon him, during his first infant education; and in such a position he even continues, and still more evidently, throughout life; all his social relations, natural as they are, not only facilitating and multiplying the pleasant impressions which he receives from without, but also, on the other hand, interposing difficulties and obstacles to their appropriation, which nothing but a vivid perception or anticipation of the pleasant impressions which follow in their train could support his efforts to surmount.

The sense of difficulty and of the effort required to overcome it seems, then, from this more superficial view of life, as well as from the considerations already made on the less observable, but fundamental relation between susceptibility and impression, to be the first thing realized as a natural object of will, for the sake of, or as introductory to, visible, or otherwise sensible, or prospective pleasure.

All pleasure is, indeed, as much prospective as actual; and it is in connexion with the continual anticipation or desire of it that is maintained the continual exercise

of volition, which is essential to the waking state of a conscious being.

But, the voluntary effort required to appropriate a pleasant impression, and the desire which, in common language, excites it, are, alike, natural results of the combined physical and mental susceptibility. They are, in strict language, not only correlative, but connate or coincident; both being defined or determined together. Thus, for instance, mental attention is an elementary form, not only of desire, but of voluntary effort; and no other form of desire can be defined except by the coincident voluntary act. The natural attitude of vacant listlessness may as justly be said to be compatible with close and earnest attention, as the occupation of the mind by any other determinate, unwavering desire may be said to be unconnected with the appropriate voluntary effort for its accomplishment. It is the process or state of deliberation, which precedes the adjustment or exact perception of the relation between the susceptibility and an external impression, and which is protracted and rendered conspicuous in proportion as the consideration of the elements of the determination or calculation is enlarged and difficult, on the one hand, and the mind slow, on the other hand; it is this process or state, during which the mind is momentarily free from any desire or volition, that is apt to blind us to the really natural coincidence of a certain susceptibility, a distinct perception or imagination of an external impression adapted to it, a definite desire, and an appropriate voluntary effort. Desire and voluntary effort are, thus, naturally associated together; and a

natural consequence is, that they exercise a mutual influence over each other, in the way of suggestion or excitement, developement, and restraint: a mutual influence which is, moreover, greatly diversified by susceptibility and habit: so that for instance, the sense of required voluntary effort may either excite and increase desire, or discourage and repress it: the only universal relation being that, according to which, a conviction of impossibility either diverts or annihilates desire and voluntary effort at once.

But, another and most important consequence of the natural association of desire and voluntary effort is, that they exercise a conjoint influence in the maintenance, developement, and modification of life. Accordingly, in the first infancy of man, already alluded to, the natural use of difficulty, and of voluntary effort to overcome it, for the gratification of desire, is at once evident, in their effect of developing not only the capacity to use the voluntary muscles, but the substance and power, so to speak, of these muscles themselves; as well as the mental faculty of perception, and others; not to mention the vital functions, more especially so called, of circulation, secretion, and nutrition; which are all thus diversely favored.

But the difficulty which impedes the gratification of desire, and the voluntary effort required to surmount it, are apt to become irksome and painful: and, in infancy, this occurs immediately, whenever the gratification of desire is obstructed or deferred: desire being, at this period of life, from the want of experience to define and diversify it, at once vague, exclusive, and

engrossing; while the voluntary faculties are feeble and imperfect. Nor can all the care and solicitude which parental and social affection prompts entirely prevent this irksome or painful obstruction to the gratification of desire; which is so naturally signified by the cry of infancy. With this we are ushered into life; and it is the gladsome signal, to all who are ready to welcome our advent, of a matured capacity for a new mode of existence; though it is the exponent of a condition, of which, in after-life, we become conscious as a condition of painful effort in the exercise of our organs for the gratification of desire. It may be said to be the first external token or source of impression through which the mind becomes distinctly conscious of desire, as one of its own modes, or, in Locke's language, as one of the ideas of reflexion, of the difficulty which opposes its gratification, and of the voluntary effort required to surmount it. If, indeed, we could suppose all the changes of susceptibility which take place in the human system to be immediately and without any sensible interval or obstacle met by their appropriate external agents, we could hardly imagine the mind to become conscious of desire at all, or of voluntary effort to gratify it: whereas, in the actual conditions of our being, we readily understand, on the one hand, how our natural desires, in the most enlarged sense of this term, are developed together with the capacity to gratify them, and, on the other hand, how the patient tolerance of all the obstacles which oppose them, is promoted by these very obstacles themselves, and by the efforts which they excite to remove them.

And thus, we gradually learn, by the experience of infancy, and by the ordinary process of association, to regard patient, and even painful effort, as a natural preliminary to the enjoyment of pleasure, and as a necessary condition of conscious life. And thus, moreover, the sense of pain and difficulty, and of the effort to remove them, is ultimately almost, if not entirely, annihilated, not only by the means of mere association, which establishes in the mind an analogy between the cause and the effect, (that is, between the pain or effort, and the consequent pleasure,) and annihilates the sensible difference, but, also, by virtue of an actual change in the susceptibility, and in the vital and voluntary powers and functions: a change which is fairly attributable to the agency of the once painful impression or difficulty and of the effort which was necessary to overcome it: an effort, however, be it observed, excited and supported by the prospect and the hope of a pleasant impression.

Nor can we rationally suppose this vital relation of difficulty, pain, and effort, thus evident in infancy, to be abrogated or essentially altered in after life. On the contrary, its importance in the series of vital relations becomes still more evident as life advances: for, though the same causes or sources of difficulty, pain, and effort may gradually be nullified as such, in connexion with the gradual developement of the vital and mental faculties and susceptibilities, and may even become direct sources of pleasure and satisfaction, still other sources will remain or spring up, and will still be sought and voluntarily encountered

under the excitement of other pleasant impressions, either actually attainable and appreciable, or still further in prospect, and perhaps, eventually problematical. Man is, indeed, at all ages, happily buoyed up under difficulty, effort and pain, as much, if not more, by the fond imagination of pleasant impressions which he is destined never to realize, as by the rational hope of those which are more immediately within his power. Nay, the ease and comfort of old age, which so few attain, may be said to be the culminating motive to all the endurance and effort of adult man; whose faculties are thereby progressively adapted to all the intervening duties that may really fall to his lot. And thus, mind and life are continually exalted and developed, as they were, first, in infancy, by difficulty, effort and pain; but ever endured, as at first, for the sake, not of themselves, as such, but for the pleasure or satisfaction which experience shews can be attained only through them. Life and its vicissitudes of toil have, in fact, no abstract value in the estimation of Epicurean, Stoic, or Christian: and the ænigma of man clinging to life in the midst of wearisome labor and wretchedness can be solved only by the hope of future good and enjoyment, or by the fear of greater misery.

But, man lives not to himself or by himself alone. He is, therefore, by his very nature, disposed voluntarily to seek and encounter all the difficulties, efforts, and pains which attach to the duties and pleasures of social life: and these still further promote the exaltation, extension and development of his own life and

happiness. His capacities and desires are, on the one hand, multiplied and enlarged, and on the other hand, restrained and moderated, by the amalgamating and identifying influence of social affection and obligation : and if we could imagine them to be mutually promotive and restrictive while confined, by supposition, to the microcosm of an individual body and mind, how inconceivably extended and important must be this mutual relation of developement and restraint, when they are spread over the universe of social sympathy ! This sympathy, indeed, however extended it may be, is only a developement of that elementary fact of life, on which we have had occasion so much to insist, viz., its equal dependance on intrinsic susceptibility and extrinsic impression : and man's most enlarged affection for his fellow-creatures, and even that unreserved love and reverence of nature which pertains only to the most elevated philosophy, differ but in degree from the contracted, not to say the perverted sympathies, of the most selfish individual that can be imagined. Man, as we have before intimated, cannot be or desire to be, an entirely isolated being ; and the most complete subjection of his will to that of another conscious being whom he loves or reveres, is no more than an extension of the desire which leads him to use inanimate things as they may be adapted to serve him, instead of irritating himself with the vain hope of transforming them according to his own caprice. Man is thus, in all conditions, inured to the practice of self-denial by virtue of his natural dependance on external things :

and the germ of this form of intellectual and moral rectitude, which is fully developed only by the highest philosophy and religion, is conceived when man first errs in estimating the sensible relations of things to himself, or, in other words, when he first recognizes the necessity of altering or abandoning his wishes concerning them. In the exercise of such self-denial, man does not repudiate the gratification of his natural desires, but on the contrary, modifies and enlarges them, while he realizes them in accordance with a more accurate and comprehensive perception of his natural relations ; an accordance which, however, may implicate not merely the protected endurance of effort and pain, but the sacrifice of life itself on the shrine, not only of duty, but of social affection. Man, thus endeavouring to appreciate the real extent of his natural relations, feels himself to be but a part of a great whole ; with which only he can enjoy pleasure or suffer pain, or even continue to be.

Self-denial, then, is only a comparative term, by which we endeavor to express the difference between a narrow and a comprehensive estimate of the capacities and relations of our being, and the natural desire to extend and diversify them by intermixture with other beings of a kindred character : for it is only in connexion with such beings, that the idea of self-denial can be realized, if at all, to any considerable degree ; though, when so realized, it becomes an important means of modifying and developing individual life, if we may correctly speak of any mode of life being simply such.

But man's faculties are, notwithstanding all possible appliances for their developement, naturally limited ; and he has no means of determining his true position in the universe, or even in the society of his fellows, but his mental perceptions of his proximate or immediate relations ; which are the only available clue, as so perceived, to the interminable relations which he really bears to the universe and even to his fellows.

These perceptions are the only conceivable motives to voluntary action : and the voluntary actions which they excite must indicate, at the least, an imaginary congeniality or incongeniality, in the perceived impressions, to the living system ; just as the involuntary actions which are excited by unperceived impressions indicate an organic congeniality or incongeniality which may be said to be independent of any mental estimation. Nay, voluntary actions themselves as we have before observed, are known to depend, not merely on perceived, but on many unperceived impressions, and may therefore, in ultimate analysis, be said to be as really indicative of organic congeniality or incongeniality as involuntary actions are. Indeed, it were absurd to suppose that perception and all the forms of mental operation with which it is connected, are naturally calculated to render less determinate the congeniality of the external relations of life, which they are so evidently adapted to multiply and extend. It is however, only as we consider the many unperceived impressions on which all voluntary acts necessarily depend, that we are able to realize distinctly the double relation which volition bears to its results ; viz,

as it directly promotes them, and as it indicates a susceptibility in the system for them, without which double relation it were as vain to expect the volition as to expect its appropriate results. Nevertheless, perception, with all its attendant mental faculties, while it makes the mind cognizant of the direct relation of volition to a resulting act, and seems to give the mind an entirely independent power over this act, is naturally adapted to make this act a much more comprehensively accurate indication of the organic susceptibility, or of the actual and prospective relations of the living being to external nature, than we can imagine any involuntary act to be. Were it otherwise, the mental faculties of man, which so evidently give him an advantage over all other living beings, in the maintenance and developement of his individual and specific life by the appropriation of external impressions, would, on the contrary, tend to render the continuance of human life more precarious than that of the lowest zoophyte.

But, a perception of congeniality or incongeniality can only be conceived as a perception of pleasure or pain, whether it be a perception of vivid reality, or one of memory or anticipation : and the only natural result, that we can imagine, of such a perception is a voluntary action indicating desire or aversion ; which is, as a definite feeling, proportionate to the voluntary act or effort which it promotes.

It would, then, be absurd to say that we desire what we perceive to be uncongenial or painful, or that we make a voluntary effort to obtain it ; as, on the other

hand, it would be absurd to say that we are averse to impressions which we perceive to be congenial or pleasant, or that we make an effort to repel them.

And yet, life is, as we have seen, naturally maintained and developed by volition and the voluntary appropriation of extrinsic impressions. And these impressions are not, as we have also seen, exclusively or at all times, immediately agreeable : nor are they, on the other hand, as is abundantly manifest, exclusively, or at all times, even immediately disagreeable. The voluntary maintenance of life under exclusively and incessantly painful impressions and efforts has never been imagined by the mind of man : and accordingly, a life maintained under such impressions has always been regarded as interminable ; and volition has been secluded from it, except as exercised under the impulse of a fear of still greater pain or labor, which has virtually converted the first into comparative pleasure or ease.

A satisfactory theory of life must, therefore, while it recognizes the fundamental law of its maintenance and developement by the voluntary appropriation of pleasant impressions, also recognize, as naturally compatible with this, the voluntary endurance of painful impressions and laborious efforts ; or, in other words, of the self-denial and self-sacrifice, which are natural conditions not less imposed on the maintenance and developement of individual life, than on that of social life.

Considering, then, the fundamental law of the voluntary maintenance of life by pleasant impressions, and especially as we have seen it exemplified in the

first developement of the faculties in infancy, we may rationally conclude that the voluntary incurrence of difficulty, effort and pain is essentially useful and life-developing, only when there is a natural necessity for it; that is, when we cannot avoid it, compatibly with a due regard to all our natural susceptibilities and relations; or, when the pleasure or advantage to be gained by it is more or less distinctly in prospect, and worth the cost, and cannot be otherwise attained. On the other hand, we may anticipate the general demonstration of common experience, that fool-hardiness, or any other extrinsic or inappropriate motive, more or less vitiates the operation of voluntary effort and endurance as a vital agent promoting the nominal developement either of body or of mind. Superstitious, or other ignorant or depraved hopes, however amiable they may, in some circumstances, appear, and though they may often contribute to the production of great results, are still to be classed with such vitiating motives; which give an improper impulse and direction to voluntary effort and endurance. The same may be said of invidious emulation and the inordinate love of applause; and in short, of every motive which, however praiseworthy in other respects, unduly engrosses the mind, and thus unduly limits, instead of duly developing vital susceptibility. If, moreover, voluntary effort and endurance is an essential agent of life, it is so only as it is varied in accordance with man's natural capacities; and therefore, every motive to it which is barren, and not pregnant with such variety, must necessarily tend, as it engrosses the vital

energies, to exhaust and deprave rather than develop and correct them. Even man's social susceptibilities and relations, which, as they furnish the main motives to voluntary effort and endurance, may be said to be at once the main source and the ultimate object of life, are intimately dependent on susceptibilities which may be considered as more confined to the individual, and it is, hence, vain to attempt to estimate, either generally or individually, the social relations and duties of man, without considering them as reciprocally connected with his more immediately personal susceptibilities and necessities.

Social duties must, necessarily, be regulated, for each human being, in accordance with his personal or private susceptibilities, as they are, for the species in general, in accordance with man's specific and organic susceptibilities. They vary as really, though not at all times so apparently, for different individuals, as they do for different ages and sexes; and it is as vain for one man to endeavour to constrain or regulate the wishes and feelings of another by his own as it would be, or we may rather say, as it is, for those of one age or of one sex to dictate, in this respect, to those of a different age or of a different sex. Our individual or private susceptibilities are naturally dependant, for their development, on the various forms of suggestion which, in the way of encouragement, instruction, counsel, and authority, are supplied by our fellow-creatures, as they are variously related to us; but the ultimate appeal is still to our individual susceptibility and capacity: and though we may contemplate with

moral satisfaction a general willingness to sacrifice, not merely the pleasures of life, but even life itself, for various forms of social good; and though we may patiently submit to the necessity of such sacrifices, which is, with respect to its pleasures, frequently, and with respect to life itself, occasionally, imposed upon us by the impartial and irrefragable laws of nature, we cannot but imagine christian charity, as exemplified in the conduct of individuals or in the customs and ordinances of society, to be lamentably at fault, whenever such necessity is habitually and extensively prevalent in a community, or whenever the social feelings and duties of man are put entirely at issue with his organic capacities and susceptibilities. And woe be to that community, in which the bonds of filial and parental duty and affection are thus, with other natural ties, loosened or entirely dissolved! In such a community, the interests of different classes will soon be found to be opposed to each other, anarchy and violence will succeed to order and peace, and universal selfishness and defection from moral principle will lead to the reckless sacrifice of life, not for social good, but for private and momentary gratification. It will then be too late for such a community to consider whether the social susceptibilities which make man ready to sacrifice pleasure and even life for the good of his fellows are not better developed in circumstances which render the necessity of such sacrifice partial or rare, and reduce it to the degree imposed upon us by nature, than in circumstances which tend, on the contrary, to aggravate such necessity till it becomes constant and unavoidable.

The history of nations might be studied with advantage in reference to the efforts, on the one hand, of natural difficulties exciting to vigorous efforts of mind and body for the maintenance of life, and so developing all their energies, and the effects, on the other hand, of great natural facilities, as promoting, probably, the developement of life in other, and perhaps, superior forms. But care should be taken to distinguish, in each case, the counteracting and disturbing effects of falsely artificial regulations, restraints or licence. The natural and really legitimate effects of natural conditions, whether of difficulty or facility, in the maintenance of individual and social life, cannot be secured without a plenary indulgence for the developement of all the faculties, mental, moral, and physical, individual and social, as the supposed conditions may respectively indicate. It is, indeed, a difficult problem to determine all the extrinsic circumstances and agencies which really, in any case, regulate or modify this developement. There can be no doubt that, in estimating their effect, we must also consider the intrinsic character or susceptibility of the nations in question, as it is connected with their organization and physical constitution: and all this is, moreover, affected by usage and custom. The problem is, therefore, complex and in every way intricate; and we can arrive at no safely practical lesson, except by starting from some fundamental principle: and this principle can be no other than that which is proved, by induction from the common facts of life, to be inherent in the mechanism of life itself, as it is dependant on extrinsic influence for developement and maintenance.

This dependance is, indeed, common, as we have seen, to mental, with all other phenomena of life; being the common bond by which they are all united in one category, as tending to one general result, a voluntary struggle for life, as a continually alternating condition of desire and enjoyment, under whatever circumstance and in whatever forms these may be realized. In the midst, therefore, of all the difficulties that beset the question of the comparative developement of individuals or nations in the different complications of natural and artificial influences to which they are exposed, we may certainly assume as a general fact, that it is at all times desirable that the efforts of the human mind to overcome difficulty and to sustain labor and pain should be developed and maintained by apparently adequate and appropriate motives. Without these we seek in vain to realize the legitimate results of mental resolution in any circumstances; and with these, it is impossible to predicate how far the faculties of man may be developed, though there is a limit, in each individual, if not in each race, to the relation between appreciable motive and mental susceptibility on the one hand, and physical power and aptitude on the other hand. It behoves both rulers of nations and parents or guardians to beware of endeavouring to enforce obedience to their demands of effort and self-denial as an abstract duty to them, without due regard to the disposition and capacity of subjects or offspring to comprehend and accomplish their wishes. Nothing but a deep sense of benevolence and affec-

tion, as combined with superior wisdom, can give legitimate and lasting validity to authority : and the conviction of this combination cannot be permanent, except authority be habitually exercised with due regard, not only to the susceptibility and capacity of its subject, but to his perception of such susceptibility and capacity ; both of which require to be simultaneously cultivated by experience gained under the influence of authority thus habitually enforced. And there is a real use in thus and thus only teaching, enforcing and developing the habit of making prospective good, whether personal or social, a motive for enduring effort, difficulty, and pain ; but it behoves every selfish imposer of arbitrary authority, whether ruler or parent, to beware of attempting to enforce it by direct ordinances and commands, in inappropriate circumstances, and in connexion with the counteracting example of his own conduct. Indeed, good example and appropriate circumstances for its cultivation, as indicating at once wisdom, benevolence, and integrity, in connexion with authority, are the most certain and safe means of developing the habit of effort and self-denial, without deterioration or abuse. On the other hand, when difficulty, effort and pain are recklessly obtruded upon man by his fellows, they are apt to be regarded as indications of ill-will and vicious disposition, which can scarcely fail to have an injurious influence on the mind. Such an influence can, indeed, be prevented only by the highest exercise of Christian, not to say, of Stoic philosophy ; by which the mind is inured to overlook the errors and vices of mankind

with charitable feeling. Such feeling, in fact, serves greatly to nullify the sense of difficulty, effort, and pain, as also of the ill-will of those who obtrude them upon us, and thus tends to secure us the legitimate and unmixed benefit of the effort and tolerance, notwithstanding the vicious manner in which they are imposed upon us.

We have, hitherto, regarded the voluntary endurance of effort and pain as the experienced antecedent of pleasant impressions: but, this relation is often reversed; and pleasant impressions are eagerly sought and enjoyed, notwithstanding the experience and anticipation of laborious effort and pain almost necessarily following them.

Pleasant impressions are, in both cases, the natural objects or motives of the mind, as the difficulties and efforts, whether antecedent or consequent, are the great agents in the developement of man's mental and physical powers and capacities.

This double alternation of pleasure and pain, or of enjoyment and effort, is, indeed, a constant and necessary fact in man's constitution, either as fully developed or as a rudimentary condition. As fully developed, pleasure and pain have been correctly represented, in the beautiful allegory of the moralist, as treading closely on each other's steps; and the rudimentary condition of this alternation is realized in the interminable succession of volition and appropriation, by which the life of a conscious being is characterized; every act of the will becoming irksome when it is unduly prolonged without the accomplishment of its

object, and every fresh acquisition becoming a source of discomfort, if it do not directly prompt or give way to a fresh volition. The direct association of such acquisition with the next volition is often very evident to the mind; and, however obscure it may be in many instances, and though it may be indefinitely modified and diminished by the influence of counteracting external impressions or motives, the secret relation is always still more or less maintained by virtue of that continuity of susceptibility and consciousness of which every mental state forms a part, and without which we should lose the sense of identity.

It is, on the one hand, by virtue of this double alternation that the pleasures and pains of life are multiplied and developed with its individual and social susceptibilities; and, on the other hand, we have, in this succession, the natural element of the great doctrine, taught by Stoic and Christian wisdom, of moderating and even nullifying the sense of pleasure and pain, and concentrating the attention of the mind on that which is essentially good, as the constant and ultimate object of all its efforts.

The human mind is, in fact, doubly inured to the practice of foresight and self-denial, which quickens its perception of real good, or of the true relations of life, by this double alternation of antecedence and consequence in pleasure and pain, or enjoyment and effort. It is, thus, taught to endure cheerfully otherwise painful effort and privation for the sake of the real good which is involved in the sensible pleasure which experience shews to ensue, and to yield itself

cautiously and circumspectly to pleasure and enjoyment, with a rational foresight of the difficulties and obligations which may be consequent upon it. The reflecting mind, indeed, soon perceives that, while the alternating sequence now under our review is, as a general law, natural and unavoidable, it is, in its particular applications, almost as subject to the controul of human volition as immediate enjoyment and endurance themselves: and thus, such a mind learns to avoid, on the one hand, all apparently injurious or useless efforts, pains, and privations; that is, such as are not pregnant with rational pleasure and real good, and, on the other hand, all seductive pleasures that do not tend to satisfy and develope its capacities, not only of sensible and private enjoyment, but of effort and endurance in the fulfilment of its social duties and obligations. These are, indeed, naturally contemplated by man, as sources of individual pleasure; for, man is naturally a social being, as he is a rational and reflecting being; and he fully realizes the natural alternation of pain and pleasure, of effort and enjoyment, by which his life is developed, only when he thinks, feels, and acts as such.

But, so strong is the motive of pleasure, and so powerful is the desire for it, or for those impressions which are completely congenial to the actual susceptibility, that it naturally more or less blinds even the most cautious mind, to which it is appropriately offered, whether accidentally or by design, to the perception of the pains, difficulties, efforts and obligations, which may ensue upon its enjoyment; just.

as, in prospect, it distracts the mind on the other hand, from the pain and effort on which it is consequent. And we have as much reason to learn a lesson from nature, as she thus teaches us to neglect the pain and difficulty which are contingent on the enjoyment of pleasure, as we have to learn the lesson of doing so with respect to pain and difficulty that precede pleasure. And though the moralist is apt to commend almost exclusively the latter species or exercise of foresight, inasmuch as it is the most difficult to enforce, and apparently the least natural, it may be questioned whether the former is at all less efficient as a natural safeguard against moral evil and depravity. The circumstances and feelings both of man and woman in relation to the continuance of the species are a striking exemplification of the order of nature for mankind with respect to these two kinds of foresight. All the pains and anxieties attending the birth and education of children are naturally forgotten both in prospect and retrospect, or estimated under the engrossing influence of the natural desire for the pleasures of social and domestic life. And he was surely misled by his amiable zeal for infant schools, who argued as to the general incapacity of man to learn in his adult age from the instance of domestic servants, accustomed to clean and comfortable houses, sacrificing these advantages, and descending again to squalor and poverty when they marry! However it may meet the views of political economists to try to persuade mankind to defer marrying until they can be certain of living in comfort and plenty, and however

desirable it may be to restrain and modify our natural desires by such considerations, mankind are placed in unnatural and dangerous circumstances when this necessity hangs heavily upon them : and society would do well, if, instead of neglecting this natural tendency and even necessity to forget pain and privation consequent on the gratification of natural desire and relying on mankind to overcome it, they would make social arrangements such as to provide duly for it. There is, however, no wonder that those who hold unfair positions in society should blind themselves to such position by endeavouring to teach unnatural prudence and to set such prudence unduly in competition with natural instinct and desire.

We have, hitherto, considered pleasure, commonly so called, as the motive of the mind, whether actually enjoyed or in prospect, and we have regarded the effort and pain to which the mind submits, either actually or as prospectively contingent, as essentially differing, in its relation to the susceptibility, from the pleasure for which they are encountered. But this is only a very partial view of the natural relation of motive and voluntary action, and of the natural influence of pleasure as a vital agent of cardinal importance in the voluntary developement of the whole series of vital phenomena. If this were the true condition of life, the moralist would in vain endeavor to enforce the duties of effort, self-denial, and foresight ; and it is because he is too apt to take this partial view of the motives by which the will should be actuated, that his precepts are too often ill adapted to the varying capacities of men.

We have cursorily noticed the analogy of the manner in which the mind is blinded by immediate pleasure to the pains and difficulties which may, in the order of nature, ensue thereupon, to that in which it is distracted from the sense of the pains, difficulties and efforts, which are often the necessary antecédents of pleasure. But there is another analogy, equally real, between the partial blindness to consequences, with which we naturally seek and enjoy pleasure, and that absorption of the vigorous and healthy mind which is supported by sound and well-adjusted bodily organs, in the great efforts and privations, which, as more or less congenial, in themselves, to the actual susceptibility, are made and endured with comparatively little idea, at the moment, of the pleasures or other consequences which, on reflexion, are anticipated as their result. The mind, in fact, must necessarily be more or less absorbed in that which it is enacting; whether it be, to common apprehension, pleasant or painful; the originally exciting or initiating motive being momentarily and at intervals lost sight of by virtue of that momentary or more enduring condition of susceptibility which it has induced by association, in favor of the required act; which thus becomes momentarily or more durably, in itself, more or less congenial or agreeable, and the direct object of the mind. And this natural fact becomes especially evident when, as often happens, the supposed action is persevered in, as is said, from mere habit; its original purpose or motive being entirely lost, and perhaps, supplanted by another; which, as the first, derives its power from the fact that

the mind is easily prompted and habituated to any mode of action which is more or less congenial to the actual susceptibility; while, on the contrary, it is difficult or impossible for the mind, under the influence of any motive whatever, to sustain any mode of action which is entirely alien to such susceptibility. The pleasure derivable from any prospective impression, or, in other words, the congeniality of any prospective impression, as a motive, to the mental susceptibility, does not depend solely on the impression itself, or on any simple and direct relation merely between the impression and the susceptibility; but also on the actual or potential disposition of the system for the action which is required for its appropriation: and though the anticipated or desired impression, as a mental motive, serves, in a measure, to develop the required susceptibility and capacity by concentrating all the vital energy upon it; in common with all other impressions, it operates only in accordance with the actual condition or susceptibility of the system, and is not adapted to develop or modify this illimitably or indiscriminately; notwithstanding the contrary supposition, which is apparently favoured by some rare and striking instances of sudden and extreme changes induced, by the operation of certain impulses, in individuals, and even in societies; and which is too apt to be entertained by those who measure all mankind by the standard of their own susceptibilities and capacities. The mind, therefore, naturally sets a value on any prospective good, according to its physical and moral capacity to attain it: and though our fellow-creatures may, by

the benevolent and judicious exhibition of motives before the mind, materially aid in the developement of our capacities of effort and endurance, it still behoves them to beware of enforcing motives for efforts, privations, and sufferings, for which we are constitutionally unfitted. By attempting to accomplish what we are naturally incapable of, we are too often prevented from realizing equal, or even greater good for which we are constitutionally adapted.

In endeavouring to develope or enforce the habit of foresight, effort and self-denial, we should bear in mind the natural elements of all voluntary action. These are an organic or intrinsic susceptibility and necessity of action; or, as it may be termed, the intrinsic or instinctive motive, and, coincident with this, a similarly organic or intrinsic susceptibility and necessity of sensation and perception; through which is furnished, not only the required extrinsic motive which defines the action to be performed, but also all the extrinsic agents which are required to develope and maintain the organic susceptibility. There is a specific type for all these elements in each species, which is appropriately modified in each individual: and it is as vain to have respect to any one of these elements exclusively, as it is to endeavour to make them all conform in all individuals to any one mode or type.

To gain an adequate conception of the organic necessity of sensation and voluntary action, or, in other words, of their value to a conscious being, we have only to imagine, if possible, such a being confined to one sensation and one mode of action. We may

thus understand the powerfully reciprocal influence of an impression and the voluntary action which it excites and maintains, and how the action, as well as the impression, is congenial or agreeable from its necessity. We thus realize in our imagination the fundamental or primitive type of the relation of voluntary effort to the organic condition of a conscious being; and this type is, in a measure, realized in actual life, not only whenever the mind is engrossed by any one impression, but also in the first efforts of the infant, while every impression is new and temporarily engrossing. And this is the type that we should initiate in all our attempts to develop and enforce the habit of effort; our methods, as well as their results, being more natural and appropriate in proportion to our attention to this general pattern. For, absorption of the mind is a natural attribute of every voluntary effort; and the only essential difference between the mental absorption which characterizes the efforts of a fully developed and well regulated mind, and that which characterizes the efforts of a contracted or infantile mind, consists in the degree of comprehensiveness with which all the elements of an object, purpose or motive, including its relations to our own susceptibilities and capacities, are combined in the final judgment and determination, which initiates and sustains the voluntary act. Before determining, therefore, ourselves, to make an effort, or endure pain, difficulty and privation, or endeavoring to enforce such an obligation upon others, we should calmly and dispassionately consider whether the purpose or the

anticipated result commends itself to the mind of the proposed agent as circumstantially and essentially desirable ; and whether the perception of its practicability and of its advantage be such as to excite a wish for its accomplishment which shall concentrate, for the time, all the energies of the system upon it, and so produce a voluntary effort unrestrained by any sense of doubt, fear or pain. We thus secure a steady and efficient effort for a rationally devised and apprehended purpose ; the latter by association, making the former a congenial object of the mind with itself ; and becoming, moreover, itself more accurately apprehended and more ardently and steadily desired by virtue of the same association. On the contrary, if the mind of the proposed agent cannot be induced to appreciate the value of the object set before it, it is vain to expect orderly and efficient effort ; and if pain and difficulty are sensibly felt, they will prove, so long as they are realized, the incongeniality of the object, by weakening and otherwise perverting the effort, and causing partial and temporary, if not entire and lasting disappointment.

If, however, we still see reason to adhere to a purpose, notwithstanding the sense of intolerable pain and insuperable difficulty, it behoves us to consider whether our attention is so much engrossed by it as to make us neglect the other elements which we have seen to be natural to every voluntary effort, and especially the vital requirements and susceptibilities, by duly regarding which, we might aid in the development of the capacity to endure the effort, with a better prospect of success than we can have, while trusting

solely to the simple influence of the purpose or object thus unnaturally and rashly forced upon the mind.

We have had occasion to advert to the natural impossibility of minutely predicating, appreciating or comparing the infinitesimally varied modes and results of organic action, as a plea for the necessity of a general principle, instinct in the animal economy, which may serve as a clue to their appropriate development, independently of such discrimination or anticipation. This is, virtually, a plea in favour of actual conditions or relations, as they successively become perceptible, and as they are assimilated to each other by some common quality which is readily and accurately appreciable. These conditions or relations we found to be represented to the mind by extrinsic impressions, as they are immediately made on the external senses; and we also found that these impressions are desired by the mind as counterparts of those intrinsic susceptibilities, which, as they succeed each other, compose the tenor of a life which we naturally desire to maintain and develop. We further found that these appreciable relations are multiplied with the organs of sense and perception; and that they are so combined, in the economy of life, as mutually to modify, restrain and develop each other. The actual term which is, at any moment, developed in the series of any individual life is, therefore, represented by this combination of conditions, relations, and susceptibilities, in connexion with their combined counterparts of appropriate extrinsic impressions, which are necessary to develop the actually passing term of

the vital series, and prepare for the induction of the next.

Now, we have, throughout, regarded all the susceptibilities of a conscious being as combining together in one harmonious series, and including all those of the mind, so called, as well as those which are commonly called physical, and moreover, all those which ally us to our fellow-creatures or to any conscious beings that can be more or less appreciated by the mind, as well as those which are generally accounted as of more private reference. But, even supposing these, though they are developed in apparent connexion with the same organization, to be, nevertheless, essentially different from the former, they, at all events, resemble them as they are immediately appreciable, as they have their intelligible counterparts in extrinsic impressions which can be directly discriminated, and as they lead to remote results which are but very partially and vaguely predicable. We can, indeed, but very partially foresee the consequences of any of our actions, as we can appreciate but very partially even their concomitant circumstances. The latter, varying, as they do, with every single act, and with every repetition of apparently the same act, and being, at the same time, as we have said, but very partially appreciable, give a real, however imperceptible difference, to each act of our lives, from any other which it may seem to resemble; so that we cannot compare them with accuracy, or predicate, of one act, even the known consequences of its apparent prototype. It is, there-

fore, under the influence of immediate impressions in momentary and ever-changing, nay, never-recurring states of susceptibility, that we are constrained to live and act; and it is by a constant, comprehensive, and combined attention to all our actual susceptibilities, as they are evolved in the vital series, that we are enabled to make each act a proper representative result of all that is present in relation to our being, and the proper antecedent of all that is future. This is, indeed, the only kind of circumspection, foresight, and prudence, that we can practise with any rational hope of certainty or safety, and that will enable us to meet calmly and securely all the contingencies of life, with a pure conscience and a just respect for all our natural obligations. For, "surely every man walketh in a vain show;" and none can surely "take thought for the morrow."

Nor, in thus limiting the legitimate range of circumspection and foresight, in the conduct of life, do we depreciate, but rather determine, also the true nature and value of experience, as our guide. It gives us, on reflexion, a confident and comprehensive knowledge and anticipation of our natural susceptibilities and relations, as they are developed and mutually modified, not only in individuals, but in societies and in successive generations; and thus furnishes a large basis for circumspection and foresight, and for all the motives of effort, self-denial, and patient endurance, as well as for the security of present enjoyment and happiness. Its results and the maxims which express them naturally serve to excite,

regulate, and direct our attention to the varied impressions which are offered to our senses, and thus prevent apathy on the one hand, and exclusive engrossment on the other.

But, these results and maxims of experience are valuable only as true, appropriate, and comprehensive exponents of our capacities and relations: and we can be certain of them being such only as they are subordinated, in their first expression and in every subsequent application, to the sense of congeniality, which, as the basis of desire, regulates the voluntary developement of life with all its faculties and relations. Without attention to this test, the results and maxims of experience are unavoidably vague and fallacious; the true value of the terms in which they are conventionally expressed being, otherwise, inappreciable, and subject to many false and dangerous estimates. Thus, for instance, health, riches, and honor, nay, pleasure itself, are terms of which the value is greatly varied, not only with the susceptibilities of those who enjoy them severally or collectively, but with the circumstances in which they are severally or collectively acquired and retained: implicating, as these circumstances do, the fulfilment or violation of the natural law which regulates the susceptibilities of conscious beings, and consequently their orderly and comprehensive, or irregular and partial developement; or, in other words, the promotion of happiness or of misery.

Man, by his mere animal constitution, is adapted to the influence of a mundane system of which all the changes are more or less gradual: but, all the vital

agents which are, as man's constitution itself, developed in connexion with these mundane conditions, and over which his mental faculties give him more or less control, tend, as they are, in succession or in combination, adapted to his susceptibilities and desires, still better to prepare him for the tolerance of these changes and of those influences under which he is born. His susceptibilities are indeed, so developed and modified by the mundane changes themselves to which he is naturally subjected, that every successive change is rendered tolerable by its precursors; and one of the most essential uses of his mental faculties is to assist in this process of modification and adaptation, and thus at once extend, diversify and ensure the life of man immeasurably beyond that of brute animals. Nay, mere tolerance is not sufficient to express the result: each successive change is, by its precursors, rendered necessary to the animal system, as it may be said to be to the mundane system itself: and in the same way, the vital agents which are appropriated by the aid of the mental faculties are rendered not only tolerable, but congenial and necessary, by the mundane influences which have affected the animal system, as well as mutually by their separate or combined operation. And thus all the changes of susceptibility through which man has to pass are rendered compatible with comfort and happiness; and all the impressions made upon him are modified and graduated so as to be sensibly congenial, as they are successively appropriate or necessary to the maintenance and developement of

his life. Man thus at once instinctively and rationally puts himself in comfortable relation with external nature, and averts the sudden and painful shocks and changes which he would have to encounter to the injury and destruction of his life, if various vital agents, subject to his controul, and appropriate to his successive susceptibilities, were not developed in connexion with the mundane influences by which he is necessarily affected, and which he can only thus indirectly modify. In other words, man, as an intelligent being, naturally endeavors, by a rational and comprehensive use and combination of all the available varieties of food, clothing, shelter, and fuel, as their elements are furnished in different climates and seasons, to ward off the pain and vital injury which he would suffer from the violence which would, otherwise, be done to his susceptibilities even by the graduated changes in the mundane influences to which he is born subject. The heat of summer and the cold of winter, for instance, are thus made equally congenial to his feelings, and equally, though differently, promotive of his natural tendencies and capacities. And thus, the more varied, and within certain limits, apparently the more inauspicious are the mundane influences under which man is born, the more variously and highly developed do his mental faculties become, by the appropriation of the more varied vital agents which are required to modify and regulate their operation upon him. Each clime and each season tends to develop the agents which are thus required to modify its peculiar influences; but, with respect to

the seasons of the year, as these influences prepare the animal system for each other, so the vital agents which are offered to the senses by one season have not only an actual and often directly perceived relation to its peculiar influences, but also a prospective, though a less directly perceptible reference, to the adaptation of the animal system for the influences of all the other seasons: and with respect to climates, though, in general, each may be said, with the aid of man's industry, to provide for itself, yet man often finds it more convenient, and more comprehensively conducive to the developement of his faculties, and especially of his social susceptibilities and sympathies, to make all climates contribute to the requirements of each other. And thus, man develops all the capacities of his being, associates himself with all his fellows, makes himself acquainted with all the productions and all the phenomena of nature, investigates her secret laws, and by his reason and art, modifies, disjoins, and combines all her elements, in one word, subdues all nature to his purpose, under the impulse of the desire for congenial impressions which may do no violence to his susceptibilities, but may prolong the even tenor of his life until he sinks quietly into the repose of death. But how different from this order of nature is every proposed method of promoting health or curing disease by extreme and sudden alternations in the vital conditions and actions purposely induced by violent and painful impressions from which the mind shrinks, and which it can be induced to seek or endure only by the influence of vain hopes or fears,

founded on false and narrow notions of the economy of the animal body and of the agencies by which it is regulated !

By combining, then, the results of the present and the immediately preceding sections, we are led to the following modification of our artistic proposition : the immediate or remote and rationally anticipated susceptibility of the external senses to perceptibly pleasant or organically congenial impressions from their severally appropriate objects, as such susceptibility and impressions are mutually modified ; and the appetites, or the animal motions, which are respectively suggested, or excited, and also mutually modified, through the incidence, perception, remembrance, or *rational anticipation* of such impressions, whether casually, independently, or socially induced, are, either to the subject of such susceptibilities, appetites, or animal motions, or to other intelligent beings, natural indications of the extrinsic and sensible or insensible postulates of the living system, whether natural or artificial, and of the *passive and active relation of such beings to each other, to the universe, and to their common Creator.*

Section 12.—*On the Abnormal Conditions of Life.*

In our induction of the necessity of a natural principle of Therapeutics and Biology, (Ch. 1,) we referred to disease merely as exaggerating the incalculable varieties of life to which any discoverable

principle must be applicable; and we saw reason to infer that the same principle must apply, in the maintenance of life, equally to the conditions of health and of disease; nor do we see any reason to swerve from this inference, but rather the more confidently to adhere to it, now that we have developed this principle almost exclusively from the consideration of the phenomena of life irrespectively of disease.

The principle which we have thus developed is evidently co-extensive, in practical variety, with the diversified conditions and susceptibilities of disease, as well as with those of health; but we have purposely abstained from any but the most cursory references to morbid conditions in particular, because our first object has been to elicit a broad, fundamental principle, equally susceptible of application to all the possible varieties of life, among which the conditions of disease unequivocally rank.

We have, therefore, avoided any particular consideration, not only of the various conditions of disease, but of the various conditions of health itself, as they are exemplified, for instance, in different constitutions, climates and accidents, and have devoted our undivided attention to the elimination of one general element, by the modification of which they are all equally characterized, and which is similarly related, in all, to the maintenance of life.

We have, on the same account, avoided any special reference to the external appliances, instruments, and arts, by which this fundamental principle is made

available in all these modes of life, and have confined our attention to their general indication by the organs and faculties which are subservient to it equally in all vital conditions. We have, in one word, avoided special allusions, in order the better to secure the unequivocal definition and comprehension of the general principle itself by an appeal to facts universally observable.

As disease is a necessary or inevitable predicament of life, it might be supposed to be absurd to attempt to eliminate an adequate principle for the maintenance of life from the phenomena of health alone; and it is, doubtless, true that all our observations of life are unavoidably made of vital conditions which only more or less approximate to a freedom from disease.

Our individual, as well as our social faculties and susceptibilities are, in fact, naturally adapted for the abnormal, as well as the normal conditions of individual and social life; and the moderation of our susceptibilities by each other which is required in the most perfect condition which we can imagine human life to attain, however it may differ in detail is fundamentally identical with that which is adapted for the true regulation of life in disease.

It is, accordingly, the fundamental principle of this moderation that we have endeavoured to define; trusting confidently to such definition for the accurate application of it in detail to all the modes of disease as well as of health. Susceptibilities, capacities, desires, appetites, and obligations may be interminably modified; some may be temporarily exaggerated or

diminished, suspended or annihilated, not only in disease, but in various circumstances of life which can scarcely be called such: in certain rare predicaments of life, all our susceptibilities, desires, and obligations may merge into one, and the very principle of moderation itself may appear temporarily to be converted into an exclusive principle of predominance and engrossment: even the love of life and the all-absorbing desire to preserve it may merge into an absolute indifference to it, if not a determination to sacrifice it to some more worthy object.

It is only by careful observation, under the guidance and impulse of a clear understanding and an unwavering belief of the fundamental principle which we have endeavored to eliminate that the problem of its application in all these diversified circumstances can be accurately solved.

But, under such guidance, the solution of this problem is, at all times, comparatively easy, and never impossible, for the mind that is, thereby, equally prepared for the perception and enjoyment of prospective and present means of happiness, for individual prudence and social charity, for patient resignation and strenuous effort.

These are, as we have endeavored to shew, legitimate results of the fundamental principle on which life is maintained by extrinsic excitement, and of the relation of the mind, in its support, to sensible impressions; a principle and a relation, which no deterioration of life or of the circumstances in which it is maintained, no form of disease, can abrogate or radically alter.

The variety of circumstances in which life is naturally and inevitably supported and developed only serve infinitely to diversify the modes of vital action, not to alter the fundamental principle on which all modes are supported. If it were otherwise, it would be physically impossible to determine the time when one life-maintaining principle should cease, with the condition of health, and another commence, with the condition of disease; even supposing that a perfectly normal state could be at any time realized, and that marked states of predisposition to disease, and nascent forms of morbid action could rationally be considered not only as intermediate conditions between those of health and disease, but as essentially different modes of vitality from either.

The functional conditions which are commonly recognised as the more especial symptoms of disease, whether acute or chronic; such, for instance, as the vomiting and purging of malignant cholera; and which, as attended with pain or other inconvenience, or as indications of more or less dangerous import, or as more or less evidently morbid, naturally suggest a resort to the appliances of art for their relief, are appropriate conditions of the actual disease equally, and but equally with the more or less predominant sensible susceptibilities and appetites which accompany them, and which are aggravated or developed with them.

They evidently result, equally with these, from organic states, however produced, of which, so long as they continue, and however they may be modified,

they are, if we may adapt the language of Hippocrates, the natural issues, or modes of evolution into other states, which are the necessary contingents of organic life so circumstanced, just as more normal functional conditions are the natural issues of normal organic states.

The functional conditions such, for instance, as those of healthy digestion and fæcal excretion, are normal in the latter circumstances, because they are duly aided and moderated, as natural issues of life, by all the other equally normal functions, as these are also by them : a mutuality, which is a necessary postulate of every normal state of organized life ; constituting its one general natural issue or type of progressive evolution, till the terminating evolution of death.

Such a natural issue of a normal organic state cannot suffice for a condition of disease any more than the natural issue of an abnormal organic state can apply to a condition of health : and if these two specifically different issues had not the same generic or essential relation to the progressive evolutions of organized life, they could never, either gradually or suddenly, with the aid of nature or art, merge into each other. Health, on such a supposition, could never degenerate into disease ; life indeed could scarcely, in such circumstances, be at all susceptible of variety, and disease, if it could be imagined to accrue, would be naturally and universally interminable, except in death.

Though, therefore, we may as rationally wish to suspend the natural issues or the prominent symptoms

of disease, as we do to maintain those of health, it were equally irrational to attempt either by direct or exclusive attention to the respective issues or symptoms themselves, rather than to the organic states which they respectively represent, and in which they respectively originate.

And if it were confessedly irrational, on the part of a human being, to undertake directly to maintain in himself the natural issues of health, instead of directing his attention to the proper and more intelligible business of life, it is not less vain to think with some of prolonging life and establishing the vital analogy between disease and health, not by directly repressing the symptoms of disease, but by directly fostering and imitating or reproducing them.

The direct promotion and the direct repression of the issues or symptoms of disease are, in fact, equally objects of irrational empiricism, entertainable only in connection with equally partial views of natural and artificial resources.

Nor can the pathologist, more especially so called, who endeavors to discover and directly antagonize the organic state itself, which is represented by these morbid symptoms, really escape the imputation which he is so anxious to avoid, of such empiricism: for, even assuming that he could appreciate, with the nicest accuracy, by the scalpel, the microscope, or the chemical reagent, after death, not to say, by such and other appliances, during life, the organic state of disease and health actually existing; and assuming, moreover, that he could as accurately appreciate all

the evolutions which these states have to undergo; assumptions which few will hope to realize, he would still be reduced, in his treatment, to the grossest, not to say the most dangerous form of empiricism; until he had learnt the proper value of the natural law, by which all organic states are developed, maintained, and mutually interchanged.

There is, in fact, no method but the most purely empirical, however apparently it may be based on accurate science, of treating disease, or of maintaining health, by directly attending to the organic state, or to its natural issues or symptoms, merely as they are exemplified in the functional conditions, considered irrespectively of the sensible susceptibilities and appetites which indicate the means by which these conditions are naturally affected, whether in health or disease.

For, moreover, as organized life is virtually identified or assimilated with the extrinsic influences, if they may, in this predicament, be strictly so termed, which are essential to its maintenance; and as these are appropriated to such maintenance, directly or indirectly, by means of certain susceptibilities of sense, and by appetites, which are evolved by organic action under such influence, normal susceptibilities of sense and normal appetites, if such can be conceived to exist, are no more definitely and appropriately related to the natural issues of normal organic states, than abnormal susceptibilities of sense and abnormal appetites are to the natural issues of abnormal organic states.

In other words, as we have seen that abnormal

organic states have abnormal natural issues, if we may so join the terms, just as necessarily as more normal organic states have normal natural issues, we also conclude that abnormal, or depraved, or morbid susceptibilities of sense and morbid appetites as naturally and certainly promote the former and their appropriate evolutions, as nominally moderated susceptibilities and appetites promote the latter.

But, again: just as, on the one hand, the natural issues, if we may not speak in the singular, of each normal organic state are numerous as the functions or acts of life themselves, whether assimilative or excretory, whether mental or physical, whether individual or social; and as on the other hand, the natural issues of each abnormal organic state are apt to be more or less partial; many of the functions of individual and social life being temporarily defective, if not entirely suspended; so, on the one hand, while the normal susceptibilities and appetites, by which the natural issues of normal organic states are promoted, comprize the whole range of those which characterize man as an individual and as a social being; on the other hand, the abnormal susceptibilities and appetites, by which the natural issues of abnormal organic states are promoted, are apt to be variously limited, and may be reduced almost to unity; one appetite almost entirely engrossing what remains of mind and affection.

And it may be further observed that, as we might readily anticipate, experience teaches that disease is more virulent and ominous, in the inverse proportion of its approximation to the habitual character of health, in

the number, variety, and general character of its natural issues, and of the susceptibilities and appetites by which these are accompanied ; agreeably to a general principle of prognosis, which Hippocrates so graphically illustrates in his memorable descriptions of the features and posture of the sick and the dying.

We may, then, with certainty conclude that, whatever may be the immediately sensible effect produced on the evident symptoms of disease, whether chronic or acute, or, in other terms, on the natural issues of an abnormal organic state, by an exact and adequately comprehensive attention to the abnormal susceptibilities of sense and the abnormal appetites, which are developed with them, whether in the way of increase, decrease, or any other modification ; such effect represents what every enlightened physician must wish to realize ; the strictly natural phase, for the moment, in the course of the disease ; the advantage of which can neither be surpassed nor equalled by any result which can be accomplished or contemplated according to any rule of art otherwise based.

The same may be affirmed of the effect of such an exact and adequately comprehensive attention to the abnormal susceptibilities and appetites on these susceptibilities and appetites themselves ; whether in the way of increase, diminution, or other modification ; inasmuch as they must be co-ordinately modified, by such attention, with the organic states and the natural issues to which they are so accurately adapted in the general economy of life ; of which natural issues, in

fact, they may be said to form an essentially integral part.

And here we may pause to observe that it is happy for those whose capacity for rational and steadfast faith in comprehensive principles of action is small and undeveloped, if their first experience of them is gained in circumstances in which a return from a strikingly morbid to an evidently healthy condition of susceptibility, appetite and function, is naturally possible and easy, whether in acute or chronic, in epidemic or sporadic disease. Nothing less than such a confidence will suffice to keep the mind steady either to a great principle, or even to any one empiric method, when it has to be tried in circumstances in which a completely different result is naturally inevitable.

And yet, it is vain and absurd to leave the value of a great principle at the mercy of results which, from the incalculable variety of circumstances which influence them, can never be made an available medium of comparison; and to which all principles must, alike, succumb, if they are applicable only to the restoration of health; a consummation naturally impossible, at least once, for every living being, and which attaches, with certainty, to no stage of life whatever.

We need not, then, wonder, when an epidemic scourge, with its overwhelming mortality, puts to shameful flight all the recognised principles of medicine; in which their professors can trust only while they apparently realize a preponderance of that result which they cannot, in the nature of things, ensure.

We might as well repudiate the use of food and other ordinary supports of life and health, because they do not finally avert death ; whereas, we cling to them in all the circumstances of life, because they fail only when life itself fails by a natural necessity ; so that death is as truly associated with them as life itself.

A really comprehensive principle of therapeutics may, therefore, be said to be as truly, though not so ostensibly, exemplified in the issue of death as in the restoration of health, or the preservation of life ; as it ministers equally, in both cases, to a natural or intrinsic susceptibility, by the regulated application of extrinsic influences, with which the developement of such intrinsic susceptibility is, equally in both cases, associated and modified.

It is, indeed, only to such an intrinsic susceptibility that we can, at any time, whether in health or disease, minister by the extrinsic appliances of art, whatever may be the conceived purpose of the artist : or, in other words, the legitimate object of art can only be to promote the evolutions of such susceptibility, to whatever result they may tend, whether the continuance or the cessation of life, or to whatever mode or type of life they may pertain. All, therefore, that can possibly be determined, even approximatively, of the relative value of different therapeutic principles or methods, by merely numerical comparisons of results, obviously unsatisfactory, not to say appalling, to contemplate, when designedly instituted, even on the most limited scale of experiment, and especially in reference

to methods of unequivocal and not merely negative import, is only the degree in which each principle or method may be accidentally congenial or alien to the unrecognized principle on which the intrinsic susceptibility is naturally developed; and which moreover, is unconsciously allowed to vitiate the comparison by mingling its indications with the artificial appliances that are more or less directly antagonistic to it.

This natural principle can, indeed, never be entirely antagonized or excluded by the appliances or prohibitions of any artificial method, which is not at once based and strictly enforced in direct and purposed opposition to it; and we have but a cursory notice, in medical annals, of such a method; alien, as it must have been, to the feelings and experience of mankind, systematically and perseveringly to add to the tortures of the sick and the dying, by intruding upon them painful and exhausting impressions, which their simplest instincts would avert.

I am, however, too sensible of the difficulties which have, hitherto, and will long continue to beset the adequate comprehension and the systematic adoption of the great vital principle which I have endeavored to define, to overlook its direct, though but partial and temporary repudiation, even by the father of medicine himself, intent as he was to rescue the treatment of disease from the unphilosophical interference of those of his own times who paid no regard whatever to its natural course and tendencies as a condition of living mechanism. While the mind of Hippocrates was ardently engrossed with the simple observation of

the evolutions of disease, regarded merely as intrinsic efforts of nature or organized life to mature and expel a morbid humor or poison infecting the living system, and conceived to be, when actually generated in the organs, and because the intrinsic motive or cause of disease, as little dependent on extrinsic influence for the changes which they have to undergo, as the sanative efforts themselves, he was likely enough to fear lest the operations of nature in such critical and extraordinary circumstances, should be impeded or otherwise deteriorated by any diversion to her ordinary functions, which might be occasioned by yielding to the promptings or yearnings of appetite; which he seems to have considered as altogether alien to the maintenance of that form of vital action which he deemed appropriate to the requirements of the morbid and morbid humours, or of the organs under their influence. He, therefore, at once unduly restricted the appliances of nature and of art; and we may reasonably doubt whether the unphilosophical methods of his ancient contemporaries and predecessors did not, like those which have been greatly multiplied by their more modern representatives, while avowedly repudiating the indications and resources of nature, unconsciously admit more of them to the beneficial qualification of the effects of their harsher and more favored nostrums, than were allowed by her professed, but partially prejudiced, observer and advocate. Hippocrates, in fact, purposely confined his observations to the phenomena of disease, and endeavored from them alone to draw his therapeutic methods and

principles; a signal error which he fell into from his wish to avoid the opposite extreme of those who neglected these phenomena, in favor of abstract speculations on the general constitution of man; and which has given ample scope for vituperative exaltation to successive innovators in an opposite direction, from Van Helmont and Stahl, down to our own times.

Nothing, indeed, short of an unrestricted study of vital phenomena, as they are progressively developed, under the combined influence of intrinsic susceptibility and extrinsic agency, in all their phases, organic, instinctive, and mental, in health and disease, can be rationally expected to lead to the true expression of a life-regulating principle, applicable equally to both these conditions, as such a principle must be.

Nay, it is so manifestly absurd to suppose that a principle which applies to the developement of life, in the condition of health, whatever idea we may endeavour to form of such a condition, should entirely fail, and give place to another, in the condition of disease, at whatever point we may imagine this to commence; that we find, on the contrary, a natural disposition to apply the principle, however narrow it may be, which may have been suggested to the mind by the phenomena of disease, to the maintenance of health; to the repudiation, as far as may be, of the opposite principle, which is apt to be suggested to the mind, or to be unconsciously acted upon, in this latter condition.

Independently, therefore, of any farther consideration of this common error, we may safely affirm that

our artistic proposition is available equally in the conditions of health and disease.

Section 13.—On direct attention to the organs and functions, and to the influence of vital agents upon them, considered irrespectively of immediately sensible congeniality.

We have, hitherto, more especially directed our attention to the susceptibility of the external senses to congenial impressions, as the leading clue to the orderly voluntary developement of life, with all its other susceptibilities and functions.

We have, however, observed that the external senses are so mutually related, that they exercise, so to speak, on each other, at once an exciting and a restraining influence, which tends to apportion to each sense its due share in vital suggestion and developement.

We have, moreover, found that the mental faculties and affections, as they are gradually developed, exercise, not only a similar mutual influence on each other, but also a reflex influence of a similar character, on the external senses themselves, in both cases, at once exciting and restraining.

We have also adverted to a similar mutual relation of the more directly social susceptibilities to each other, and a similar reflex and reciprocal relation of these to all the susceptibilities, which may be conveniently considered as more directly pertaining to the individual.

And it may be here observed that no form of vital

susceptibility whatever, is beyond the influence of this general law of vital reciprocity. The very first or primordial germ of organic sensibility is essentially and formally dependant, for its developement, on the highest susceptibilities of organized and social life; which, in their turn, are developed and sustained by this germ; the phenomena of organized life being, throughout, not merely a directly progressive or self-developing, but a mutually concatenated and dependant serial product of intrinsic energy and extrinsic influence, of which we should vainly seek to determine the fluxional point or line.

But we have, further, endeavored to shew that, as the external senses are the first apparent natural basis on which are raised all the higher faculties, by which we voluntarily maintain life in all its relations, their ultimate susceptibility of congenial impressions, as the physical resultant of all these reciprocal relations, must be the final criterion of the developement of these faculties and relations, however contracted or expanded they may be.

And I scarcely need add that we have made it apparent that this necessity is compatible with the developement of all the dispositions by which man is dignified as an intelligent, a social, a moral, and a religious being.

We have seen, indeed, that the principle of mutual developement and moderation, which we have thus demonstrated, though it is the general source of life and happiness, may, in some extraordinary circumstances, seem to be suspended, in favor of some para-

mount obligation, which engrosses to itself all the susceptibilities of life, and may ever require the sacrifice of life itself on the shrine of duty and honor. The susceptibility of the external senses, to wit, is, in such circumstances, so entirely under the dominion of the engrossing impression, that they are, momentarily, closed to all others; and man dies as voluntarily as he has lived; while the unanimous and lasting admiration of his fellows attests that he has not died in vain.

Now, it is apparent that the susceptibilities and faculties to which we have, hitherto, restricted our attention, may all be classed under one category, as psychical or mental; all contributing to develope, as their general and ever-varying representative, that aggregate unit of will; of which the earliest germ may be said to be cœval with that susceptibility to extrinsic impression with which consciousness is initiated, and which is one of the two essential postulates of conscious life.

But, we have endeavoured to demonstrate the developement of mind, or will, as an homogeneous aggregate of susceptibilities and faculties, simultaneously and co-ordinately with an appropriate series of organs, the concatenation and external relations of which, it might, thus, be essentially adapted to maintain and regulate.

But, it is ever to be borne in mind that, if it is true that all the mental susceptibilities and faculties combine, as it were, to maintain the mutual sympathy of the bodily organs; they may be said to do so, not for the sake merely of the organs themselves, but as

the only medium through which they can, themselves, be evolved, for the accomplishment of all their highest, noblest, and most remote purposes. It is, in fact, only through the organs, so maintained, that external influences can be converted into motives or excitants, not merely of life, but of conscious mind : and we thus realize, in some measure, but in another aspect, the conception of Van Helmont, of the *archæus*, or *anima*, organizing a body for itself ; though, in reality, we may, with as much truth and propriety, say that the organs evolve a mind for their own maintenance ; so completely do the phenomena of life move in a circle, of which we know not the generating point.

The real value of the relations between the mind, with all its susceptibilities, appetites, and affections, on the one hand, and the bodily organs and functions, on the other hand, can never be estimated, while they are regarded as less physically and mutually dependent on each other, for developement and maintenance, than we have endeavored to indicate. The bodily organs themselves are so mutually dependent, and so linked in mutual sympathy ; that, while each organ appears, in ultimate result, to be appropriated only to a special function or purpose, it may be said equally to contribute to the maintenance of all the other functions, and even to that of their severally more appropriate organs ; just as, with its own more especial function, it is dependent on all the other organs. The external organs of sense, for instance, are subject to this law of reciprocation, at once as a separate class of organs, and as associated with the more internal

viscera. And so the organs and functions which more especially pertain to the higher order of mental phenomena, are similarly related, at once among themselves as a class, and to the so-called physical or vital organs.

And it is only as we duly estimate this law of entire vital concatenation and reciprocation, that we can form an adequately practical idea of the elements which are essential to the developement and integrity of any organ, function, or susceptibility whatever of a conscious being. Nay, our estimate will, as we have seen, be incomplete, if we disregard this law, as it is exemplified in the relations of the social susceptibilities, at once to each other, and to all the more directly individual susceptibilities, functions, and organs. It is only by a due regard to this vital law of reciprocation, that we can hope to develop an adequately comprehensive principle for the maintenance of life, in all its possible circumstances and contingencies, as opposed to any partial or exclusive system or method, which may be otherwise suggested. It is only thus, in a word, that we can hope to gain a true conception of the *will* of a conscious being, as the unique and comprehensive exponent of all his typical susceptibilities and relations, developing, regulating, and controlling them, by virtue of its apparent and covert subordination to them; a conception, calculated, at once, to develop the utmost power of the mind or will, not only over the whole system of the conscious being, but over all the elements of external nature, to which he is typically related; and to restrain the vulgar waywardness and conceit, which

would alternately exalt and debase the mind, by an imaginary independence, which is incompatible with its nature, and a subjection, which is at once gratuitous and destructive.

Now, in all conditions, which approximate to that which we may imagine as normal or healthy, we are apt, as we have before had occasion to notice, to be comparatively engrossed with the exercise of the faculties and capacities which directly enlarge the mind and maintain our social and other external relations; while our attention is generally distracted, not only from the gratification of the senses, and the physical appetites, but from the fundamental functions of organized life; which seem, except, perhaps, at momentary intervals, to require no voluntary attention or effort.

These functions, however, with their appropriate organs, fundamentally important as they really are, and varying as they must, with the circumstances of conscious life, may be readily conceived sometimes to intrude themselves on the notice, even of the most pre-occupied mind, and to claim a share of its direct and earnest attention. They are, indeed, particulars of that general object, the development and maintenance of life, which is naturally dear to every conscious being, and of which they are, severally, apt to become the more or less predominant elements. Moreover, the superficial, not to say also the less apparent relations of the bodily organs and functions to each other, and to the external agencies which are required to develop and maintain them, may be con-

sidered to be as naturally adapted to attract the attention of the curious mind, as any other, or more extrinsic object of perception; and they cannot fail, in some circumstances, to become subjects, even of paramount and engrossing interest; though they are very diversely related to the influence of the will.

Now the relation of an external agent or impression to the maintenance or regulation, not to say of life in general, but of any particular function, though it is, as we have seen, naturally inclusive of a relation of congeniality to the susceptibility of the external sense or senses to which it is immediately applied, as well as to appetite or desire; at the same time, involves relations, which may be said to be, at least apparently, still more important, to the more interior organization, and to organic susceptibilities and conditions, of which the mind can take no direct cognizance; and which it can imagine, and connect with external causes, only as they terminate in such sensible forms as those of secretion or excretion, circulation, growth, or other sensible results of more recondite vital movements.

These sensible forms and conditions of organic action, therefore, soon begin to attract, more or less, the interested attention of the mind. However absorbed he may be in other impressions, ideas, and desires, man cannot long remain entirely indifferent to the orderly coincidence and succession of these constantly recurring affections of his own frame. The modifications and changes which they undergo in himself, and as compared with those which they assume in other individuals of his own species; the

manner in which they are more or less apparently affected by external means, casually or voluntarily applied; and finally, the immediate or more remote results, whether of personal pleasure or pain, or of social adaptation or disqualification, which appear to accrue from forms and conditions, more or less definable, as contrasted with others equally appreciable; cannot fail, sooner or later, to develop a sense of preference for certain of these forms and conditions over others of an opposite character. The desire directly to promote the former and to avert the latter is a natural result of this preference; especially, as the influence of the will in the application or removal of external appliances, apparently efficient for these purposes, is recognized. Nay this recognition is, meanwhile, reciprocally quickened and enlarged by the desire itself. This desire, in fact, especially as it is strengthened by the habit of acting upon it, tends to give confidence, at once in the appreciation and distinction of the normal, or desirable, and of the abnormal, or undesirable forms and conditions of organic action, and in the immediate efficiency of the external appliances, in promoting or averting them; though the observations and experiments which have been made may be insufficient to warrant such confidence in either respect; and notwithstanding the natural impossibility, which we have before had occasion to notice, of adequately estimating, *a priori*, the mutual relations of organic action, as they are infinitely modified by the circumstances of life.

The mind, however, thus engrossed with the sen-

sible results of organic action, and with the apparent efficiency of extrinsic agents in promoting them, disregards, not only its more recondite, or less observable forms and conditions, but also, as far as possible, the intermediate and directly appreciable relation of these agents to appetite and to the susceptibility of the external senses; and thus adopts exclusively the idea of a more or less sensibly defined condition of organic action or function, as the direct object of its desire and anxiety; an object which we may be said on the other hand, hitherto, to have virtually repudiated, in favor of the more easily definable relation for which it is often substituted. The hitherto apparently exclusive result of our induction is thus, in other words, brought into direct contrast with the fact that the attention is apt to be diverted from the congeniality or appetition of a sensible impression, made by any vital agent, to the organic or functional effect, which it is more especially adapted to produce; and with its general result that, in whatever manner the experience of this final relation of an external appliance may have been gained, it may be habitually regarded as independent of the intervening, and apparently less important, if not entirely useless element of congenial adaptation to appetite and the susceptibility of an external sense; and that such experience may not merely influence the mind in this particular instance, or with respect to the agent and function, or final relation actually concerned, but may serve to induce an habitual train of observation, and to suggest a more or less general rule of life and art, according to which, the

mind may seek to determine the relation of external agents and appliances, whether natural or artificial, to the maintenance of the vital functions to the neglect of all direct consideration of congenial adaptation to appetite and to the susceptibility of the external senses.

But this is only another instance of the *abuse* of abstraction; a mental process, which may be said to be, in the relations which we are at present contemplating, as natural to the mind, and as necessary to the conduct of life, as it is, in other relations, in which it may be equally abused to the perversion of reason and sentiment.

Abstract ideas in general, are not the less useful and necessary in the ordinary discussions of thought and usages of life, because they are apt to be applied beyond their legitimate purpose and limit, and to be made the basis of false reasoning and superstitious imagination, which can be corrected only by a dispassionate and accurate readaptation of their sensible elements, and a comprehensive comparison with their cognate conceptions. They are, in fact, at once in a relation of mutual dependence on each other, for their mental generation and developement, subject to the criterion of sensible impression and natural association, for the determination of their real value, as expressions of the fundamental relations of the conscious mind to all that can affect it.

They are, accordingly, as unsatisfactory to the mind, while they are momentarily unassociated, as is the unassociated use of the external senses. An abstract idea may, indeed, be said to be incomplete, and un-

entertainable by the mind, except as it is immediately developed into an appropriate sensible concrete, which may be initiated by any one of its elements. By an effort of the mind, a logical concrete may be made of two or more cognate abstracts; as of motion and space for example; but the mental conception is at once developed, by association, into a sensible concrete; actual reminiscent or imaginary impression on the external senses being momentarily essential to the completion of a mental conception. (Abstraction is, virtually, identical with *generalization*, or *classification*; the highest abstraction including, by association, the greatest number of individual concretes, not to say, of subordinate or partial abstracts;)—while it is association and abstraction, which are at once mutually suggestive, and equally essential to the development of the phenomena of mind; as they are equally natural consequents of the organic necessity of incessantly and momentarily successive impressions which the mind is adapted to supply for the voluntary maintenance of life. The mind cannot, any more than the hand, grasp or perceive any natural concrete by a single act of attention: the qualities or accidents of which it is composed require to be separately ascertained, and all to be re-associated; each being momentarily neglected by the mind, or, as the logician says, abstracted by it, as soon as it is perceived; while the mind is thus left vacant for the reception of another, which follows in the train of its predecessor, to fill up the vacuity of the mind, by virtue of that vital postulate of intrinsic susceptibility, which,

as it is modified by each impinging impression, is prepared for its cognate successor. The state of mental abstraction is then, virtually, only that indescribable, not to say inappreciable, state which intervenes between the attention to one impression, which has appropriately modified the mental susceptibility: and the attractive influence of another. It is, virtually, an abstraction of the mind, for an instant, from the dominion of sensible impression, either actual or remembered; which, however, cannot be unduly prolonged, without resulting in the unconsciousness of sleep.

The natural horror of a vacuum, so much dwelt on by ancient philosophy, not only represents the particular eagerness of the mind to associate space with form, body and motion, but the general incapacity of the mind to retain an abstract or unassociated idea. The association of these particular ideas seems to be specially strict; whatever may be conceived as to the succession or simultaneity of their generation; as they seem to be specially and equally essential to the completion of consciousness, or in other words, to the realization of the sense of individual will, or power, or energy.

But the necessity of association is a general law of cognate ideas, of which this ancient fable is only the most brilliant illustration, because the ideas from which it is reflected are the most fundamental and universal. The horror of nature is a graphic expression of that incessant eagerness of the mind, the complementary minister of nature, to complete the consciousness at once of its own life and of the universe with which it is associated.

The natural and legitimate use of the abstraction which is at present under our notice, and its true relation to the susceptibility of the internal senses, in the conduct of life in general, as in the prevention and treatment of disease in particular, will be the most readily and accurately appreciated, after a review of its gradual developement in the human mind, as the organs and functions of life are evolved under the influence of external impressions on the native framework of organic, or intrinsic, or instinctive susceptibility.

And it may be convenient, in making this review, to treat indiscriminately, as they appear in succession, all the sensible results or functions of organized life, without any special regard to their distinction as bodily or mental, as voluntary or involuntary; as they are naturally in combination, are really inseparable, and may be rationally anticipated to remain, as we have, hitherto, found them to be, subject to one comprehensive law of mutual developement.

We may, then, safely premise that the promotion, by extrinsic agencies or influences, of the sensible visceral and vital functions, or of any particular mode of any one or more of these functions, is a general or abstract idea, which is not at all realized in infancy, and is but little developed in early youth, or in any condition of tolerable approximation to health, while all the functions are performed easily, regularly, and almost entirely without the direct or purposed attention of the mind.

The new-born infant is virtually and in strict

language, unconscious either of external impression or of internal susceptibility ; though its superficially apparent, as well as its more internal organic movements, depend equally upon both.

The latter may, perhaps, be said, during a very brief interval, to be initiated and maintained more immediately, by impressions which the organs mutually make upon each other, whether directly, or through intermediate means of communication : the simplest idea we can form of organized life including more or less of such composition and sympathy.

On the other hand, the more superficial or apparent movements imply the organic appetite of external impressions, which such instinctive movements are adapted to appropriate, by virtue of an elective affinity or congeniality between the vital organs and external influences, of which the external organs are the tests.

The capacity for these first instinctive movements is strictly natural ; that is, native, or connate ; being, as is said, prior to, and independent of, experience and instruction.

They are, however, though, in common language, spontaneous, or automatic, immediately dependent on external impressions, of which, as yet, the infant cannot be said to be mentally or distinctly conscious, any more than it is of the movements or organs themselves, or than it was, of the impressions and movements of the parental state.

These first instinctive movements, not to mention others of later manifestation, are, nevertheless, so evidently adapted to a purpose, that they have always

impressed, on the human mind, the idea of an intelligent spirit or principle, not only forming and associating the vital organs, but moving them from their midst.

Nor does the most cunningly discriminative adaptation of the most acute intellect of the adult, or the most determinate purpose and exercise of his will, differ essentially from these first organic adaptations, on which alone all the superstructure of the faculties of the mind, considered as vital phenomena, is based. It is from the unconseious infant, and from the unconscious infant only, that is unrolled the whole volume of man's faculties, however completely it may be opened, or however prematurely it may be closed.

Instinct is, in fact, only another term for organic appetence, or propensive susceptibility of impression, which we have seen to be one of the two essential postulates of all vital phenomena; having an appropriate reference to external impression; which we would vainly endeavor to disguise under the term of elective affinity, or congeniality; a phrase itself borrowed from the fundamental and all-pervading idea of intelligence and will.

The first instinctive movements and adaptations are, accordingly *perfected*, to say the least, only by what may not inaptly be termed organic experience of appropriate external impressions; and, with the entire fabric of intrinsic susceptibility and organic movement, whether voluntary or involuntary, may be said to be built up, or instructed by the continuous repetition and succession of external impressions: the

whole series of organized life being, in fact, evolved, from its first to its ultimate term, on one principle of infinite variety; a principle, moreover, adequate to the development of animal life in general, from its lowest, to its highest type, as it is to that of human life in particular, from conception to decay.

Nor, indeed, are the first, and most apparently simple instinctive movements and adaptations less really dependent, for their perfection and normal development, on the external impressions induced by the social susceptibilities and impulses, or, in other words, on the aid of our fellows, than even the most superficial observation shews the susceptibilities and desires of all future life to be: so chimerical, and so utterly unfit to be made the basis of a biological and therapeutic principle, is the notion of the independence of instinct on external impression, and I may add, of its consequent infallibility, when it is supposed to be unperturbed by reason; which, fallible as it is, is only one general expression for all its mutually subordinated indications and results: and so practically true, moreover, is Stahl's representation of the animating principle of life, as subject to deviation and failure, in what he calls its arbitrary, that is, elective, adaptations of the organs to their external relations; by which it is distinguished from merely mechanical forces, whose results are more appreciably determinate because, in truth, they depend on less numerous and less complicated elements.

The great problem of art, in fact, is, while recognizing the native liability to error and disease, to

determine, in all its comprehensiveness, the native, or instinctive, and yet ever-developing law by which they are to be avoided and corrected, not absolutely, but as far as may be compatible with the ever-varying circumstances of its application: and it especially behoves the artist, when he has once advisedly sworn allegiance to this law, never wantonly to bring its authority into competition with any partial dogma, or conventional formula, not to say, with any private or professional interest.

Now, the first post-natal impression, of vital import, is made by the atmospheric air, as it impinges on the surface of the body in general, and on the face more especially. This primitive impression initiates, or to say the least, defines organic movements, by which the air is inspired; but which, however necessary to the continuance of life, cannot be definitely instituted by the organs, until the air makes its appropriate impression, any more than they can be excited by such impression, before the intrinsic capacity for atmospheric, or extra-uterine life is developed, or while, by any accident whatever, this capacity is suspended. We have, in fact, in this first manifestation of extra-uterine life, a distinct indication of the law by which, through all its phases, the superficial is co-ordinated with the internal susceptibility of the organs, for its development and maintenance.

Inspiration excited by the impression of atmospheric air.

It is unnecessary, here, to allude to an appropriate temperature of the air, or to other causes of superficial impression which may be supposed to contribute to the effect, whether in normal or abnormal conditions

Or by properly diluted oxygen

of organic susceptibility; an appropriate dilution of oxygen being, undoubtedly, if we may borrow an observation from the chemist, the leading element of primitive vital excitement after birth.

It may, however, be observed that, for the atmospheric conditions into which the infant is introduced, he is directly dependent on the first guardians of his being; though it would be premature, at present, to speculate on the manner in which these conditions are affected by their knowledge and experience, as well as by their good-will. His second phase of being begins, as it will continue, like his first, in social dependance, which may even be termed absolute.

Inspiration more developed as the air enters the nostrils and air-tubes.

The instinctive movement of inspiration may be said to be more developed when the air has entered the nostrils; and still more, when it has permeated the pulmonary air tubes and cells.

Perfected only after repeated alternations with expiration.

It is finished, only as the air is again expelled, after undergoing certain changes, which, to borrow another observation from the chemist, complete the first palpable demonstration of the law of elective affinity or congeniality, which connects the vital organs with external nature: a problem, more primitively solved by the genially tinctured warmth and moisture, which as they are mutually radiated on the human face, form the sweetest incense of sympathy and affection, and already indicate the vital use even of the results of organic decomposition or excretion.

Without referring to the anatomist for information which he might afford us, we may at once observe that the act of inspiration is perfected, only after

repeated alternations with expiration ; a kind of organic practice and experience, by which the mutual affinity between the organs and the external air is, at length, accurately defined ; so that, for a certain time, partly, perhaps, determined by the developement of another organic appetency or susceptibility, the first extra uterine relation can be sustained, without infantile *vagitus* or vigilance. And well, indeed, may the infant sink into sleep, exhausted with the often clamorous tedium of the first and most important lesson of its new life ; a lesson, which it will have to repeat, with ever succeeding variations, up to the last expiration, which forms the solemn prelude to its posthumous form of being.

These variations are, in fact, commensurate with all the modes of thought, emotion, and action, which may be prompted throughout life ; as these will severally represent modes of intrinsic susceptibility or organic suggestion ; which besides other extrinsic influences with which they are respectively connected require as a general postulate of their manifestation, a more or less appropriately adapted supply of the first and most essential pabulum of extra-uterine life. And all these various modes of respiration and intrinsic susceptibility are virtually perfected by organic experience and practice, or instruction ; not less, those apparently more natural modes, which seem to be initiated, as it were, spontaneously, in certain circumstances of life, than those which become the subjects of direct cultivation and art.

Varies with all the modes of mind.

All these modes perfected by experience and practice.

The fundamental element of all organic movements,

Respiration
the fundamen-
tal element of
organic move-
ments that
represent the
affinity with
external things.

which represent the elective affinity between animal life and external things, seems indeed to be realized in this first characteristic movement of extra-uterine life. Accordingly, we first find it, in one of its modifications, as a principal element in the organic movement of *suction*; which represents the intrinsic *nisus*, or effort to appropriate the only congenial food; which is supplied by the mother's breast. Another early demonstration of the social dependance of life.

Suction its
first modifica-
tion.

The act of sucking, in the infant, may be said to be, primarily, an inspiration of air, confined within a limited space around the nipple, by the mouth; on which the organic energy is intent; while the ordinary inspiration by the nostrils is momentarily suspended; to be renewed only after deglutition: a renewal which is facilitated, with varying degrees of instinctively instructed skill, by one of the most interesting manipulations which a tender mother can execute, or a fond father witness, excepting, indeed, that which the nursling soon learns to execute himself, as a mere matter of individual feeling, of which, however, he may be said to be almost, if not entirely as objectively unconscious, as he is of its influence either on the sympathy of his nurse, or on the supply of his food.

Nor is the use of this early lesson ever entirely superseded, however its application may be modified, and though few adults, not to say youths, wish to be taunted with their adaptation for the repetition of this primitive task.

Food and drink are, in after-life, somewhat similarly inspired, or sucked in; and thus momentarily absorb the attention, whenever they are ingested with the care and discrimination required to secure their accurate adaptation by the test of the palate, to the actual susceptibility and the strictly normal, not to say ordinarily safe performance of the organic, chemical, and mechanical operations, to which they are successively subjected; while, on the other hand, various accidents and evils, more or less readily appreciable, are apt to accrue from the rude and indiscriminate satisfaction of hunger and thirst, without due respect either to the subjective or objective susceptibilities of smell and taste, of which the subjective susceptibilities especially, naturally qualify these appetites, and form important elements in the initiation and regulation of all the organic movements proper to ingestion.

Suction necessary to the ingestion of food and drink in after life.

Observations, more or less familiar to the parturient chamber and the nursery, are sufficient to demonstrate the dependence of the organic movements of suction, for their initiation and perfection, not only on the intrinsic necessity for food in general, but on appropriate congenial impressions made on the senses of smell and taste, not to say, also, on that of feeling; and however complete may be all the mutual adaptations on the part of the infant and the nurse, respectively, it is but comparatively true that both have not to learn their parts in this important function; though it is at once observable how generally easy the lesson is to both, under the promptings of mutually congenial impressions, of which one may be said to be, as

Prompted and perfected by congenial impressions on the senses of smell and taste.

yet, utterly unconscious, and the value of which, the other is apt to recognize, only in the simple result of comfortable satisfaction.

The required impressions cannot be secured under the influence of any abstract idea of Nature.

It is, however, equally important and difficult at all times to realize this happy postulate; especially as some of the causes which obstruct its completion are now miserably beyond our controul: but, it is, in all circumstances, vain to expect it, while we rely on the abstract idea that Nature supplies the proper food for the unconscious infant, and adapts it exactly to its individual susceptibilities and requirements, independently of the most comprehensive use of our faculties and affections, in appropriate subordination to organic indications in furtherance thereof. And this leads us to observe that, though our immediate object is to trace the developement of the vital functions in infancy, we are, at the very outset, brought into collision with one of the most important functions of adult life; on which all the functions of infant life may be said, with truth, to depend indirectly, as that which we are more immediately considering does directly. Neglecting, at present, the question, already suggested, of the exact expression on the part of the new-born infant, of his atmospheric susceptibility, it may be observed that, whereas the susceptibilities of the earliest period of infant life have their more or less appropriate and intelligible expressions, and whereas some of these may require direct attention, the infantile susceptibility of alimentary ingestion and nutrition, especially as regarded at all comprehensively, and as at least indirectly related to the natural variety, not

Nor without providing for the maternal susceptibilities of alimentation and secretion.

merely of food and drink, but of other vital influences which really affect and modify the nominally uniform mammary secretion has and can have no intelligible expression but that which declares this susceptibility in the nursing mother; on whose organic economy the infant depends for food, as well as on her mental affection. It is, then, manifestly to the maternal susceptibility of alimentation and secretion that we must attend, in favour of the infant, at all events, while the conditions of health remain on both sides; and whatever excuse may be made for violating this bond of dependance in certain circumstances of disease on the part of the mother only, it seems to be the acme of absurdity to look to any other quarter for the maintenance of life when only the infant is ill, except on the unqualified assumption that the natural susceptibility of developing life, the expression of which, in regard to the infant, and to alimentary ingestion, rests with the mother, has no relation at all to the conversion of morbid into healthy developement; an assumption, absurd as it is, which the habitual practice of direct infant medication proves to be at the basis of all artistic methods that are not guided entirely by organic indications.

Error and
abuse of
direct infant
medication.

But, as inspiration may be said to be the fundamental or typical element of all the organic movements, by which the ingestive or attractive results of organic affinity are, with varying degrees of consciousness, realized, expiration may, on the other hand, be said to be similarly related to all the organic movements, by

Expiration
the typical
element of
excretion.

which the excretive or repulsive results of such affinity, if we may so speak, are similarly accomplished.

The first and last excretory act of life.

Expiration may be said to be the first instinctive excretory act of life, as well as the last; and as the inspiration of nutritive atmospheric air is momentarily suspended, for the inspiration or appropriation of more substantial nutritive food; nay, as we may say, of every external influence or impression, that is to furnish pabulum for mental consciousness; so the expiration of the aërial products of the decomposing organs is momentarily suspended, for the instinctive expiration or expulsion of their liquid or solid products; and so, moreover, it is appropriately modified, for the expression of all the mental products of thought, emotion, and action; the issue of which, in given conditions of susceptibility and impression, is as essential to the integrity of organized and conscious life, as that of more substantial *excreta*. Nor is the voluntary issue of the former less really dependant on intrinsic susceptibility, or organic, or instinctive impulse, than that of the latter; though it is apt to be disguised, in the former case, by a generally and normally more immediate and apparent connexion with external influences; a difference which, however, is apt to be, in certain circumstances, materially diminished, if not entirely annulled: to the effect, as may be often observed, of suggesting a much higher source than organic instinct or intrinsic susceptibility: so alien is it to the nature of mind to attribute any result which bears its inimitable seal to organic mechanism or animal impulse.

Modified for the expression of mental moods.

The expulsion of fæces and of urine may be said, then, to be the third and fourth instinctively organic acts of infant life, occurring or not in the exact order of this enumeration.

Urinary and fecal excretion the third and fourth acts of infant life.

Now, the new-born infant is, for a time, quite unconscious of the act of excretion, as it is of its organic necessity and mechanism.

Infant unconscious of excretion.

The organic action required is first initiated, as we learn from personal observation in later life, by an internal impression, made respectively, on their containing organs, by the matters to be expelled; an impression, which may be said, in the earliest infancy, to arrest organic attention; as, in later life, it arrests, also, mental attention.

Initiated by an internal impression which arrests organic or mental attention.

When the impression alluded to produces its normal effect, whether the mind has gained the capacity of perceiving it, or not, the really expulsive action is immediately preceded by a moderate inspiration, moderately depressing the diaphragm; if it may not, rather, be said, in a strictly normal condition of the susceptibility, to arrest the attention, just at the instant when an ordinary inspiration is completing; this momentarily stationary condition of the respiratory organs apparently coinciding with the organic or mental disposition to be occupied with this, as with any other prominent impression.

And suspends respiration.

The expiration of air is thus momentarily suspended, in favour of the more substantial expulsion; and it may be observed that, in normal conditions, the time and effort required for the satisfactory completion of the expulsive act are measured by the comfortable

tolerance of a somewhat unusually prolonged suspension of expiration; this tolerance being, perhaps, somewhat increased by the diminution of the preliminary inspiration.

But if, on any account, it be necessary to renew the inspiration or expiration of air, before the expulsive act is finished, either this is temporarily suspended; or respiration is effected with as little movement as possible, on the part of the diaphragm and the abdominal muscles; the intercostal muscles being more especially brought into play.

If, indeed, the service of the former muscles be unreservedly diverted to the respiratory function; which, in some abnormal, or accidental conditions, is unavoidable, the action of the containing viscera on their contents is also diminished, or entirely suspended, until the initiating impression, variously modified as it may be, is renewed, or until the susceptibility to be appropriately actuated by it recurs.

Dependant
throughout on
the internal
impression.

The expulsive act is dependant on the faecal excitement, not only for its first initiation, but also for its continuance, for its gradual developement, and for every modification which it undergoes during the progress of the effête matters.

The maintaining or directing excitement, and the expulsive power increase, *pari passu*, throughout the process; and there may be a manifestation of what may be called organic effort proportionate to any difficulty that may be opposed to the expulsion or to the removal of the initiatory excitement.

The organic
effort in the
infant simu-
lates volition

The organic effort, be it more or less, is evinced by an appropriate suspension of expiration, and a certain

degree of fixity of all the external muscles, together expressing the act of organic attention, and very apt to impress on the mind of the adult observer the idea of conscious volition and effort.

And truly, the conscious mind of the adult, as he patiently promotes, by his will, or to speak more correctly, passively accedes to the successive parts of the mechanico-vital act of fæcal excretion, as it proceeds under the excitement and regulation of the internal impression, does little more than the really unconscious, but accurately adapted organism of the infant. Nay, he is too apt to vitiate the process by an abnormal exercise of his will upon it, and what is worse, he too often teaches the infant to do the same long before it would have learnt the evil lesson without such injudicious suggestion.

Vitiated by an abnormal exercise of volition.

Though it cannot be said that the infant is unconscious as the vegetable, or as a zoophyte, or other brainless animal; and though it would be repugnant to the common sense and sympathies of mankind, to speak of it as insensible or perfectly indifferent to congenial and uncongenial impressions; seeing that all its organic movements are respectively adapted to them; and that such adaptation is typically represented by that pervading elementary movement of respiration, which may be said to take the initiative in the developement of consciousness and volition, and, as the first characteristic movement of extra-uterine life, to be ever essential to all their modes; it is, nevertheless, true that there is not yet developed in the brain of the new-born infant, the capacity of receiving, or in the

The impressions made on the infant are as yet exclusively subjective and are not mentally perceived.

peripheral nerves, the capacity of transmitting impressions to it so that they can be distinctly recognized; that is, idealized, or formalized by the mind, or by its special organism. They are, indeed, at the time we are considering, however indefinite may be its duration, as exclusively subjective as the impressions which actuate the movements of the zoophyte, though they are much more diversified and depend upon a greater number of extrinsic influences.

All impressions made on the peripheral nerves, however they may be represented and embodied, to the mind of the adult observer, in appropriate organic movements; however such observer may sympathize with them; and however really beneficial or injurious they may be to the organs they affect; are, nevertheless, as concerning their mental appreciation by the infant, literally "airy nothings," without "local habitation or name."

The brain and nervous system, as well as all the other organs, have to be yet further developed, not only by internal impressions, but also by numerous and diverse external impressions, adapted to the several organs of sense, and especially to the eye, and operating upon all the organs, not merely as directly transmitted, but indirectly, through the circulating blood, as it is affected, not only in its composition, but in its motion and distribution, at every instant modified more especially by the multiform application of atmospheric air; before the infant can become definitely conscious or percipient of any impression whatever, or of the organic movement which it excites.

It is yet, as it were, only a machine ; though adapted to an appropriate series of extrinsic influences, by vital susceptibilities or affinities, which, however they may differ from the susceptibilities or affinities of vegetable life, or from those of any inferior order of animal life, are not yet exalted to the standard of mental perception and volition. Not to say that the infant is entirely at the mercy of external influences, its organs act only as they are moved by literally contingent or present impressions ; which do not suffice to maintain life, without the aid of more developed beings, whom it may haply replace. It is moved by impressions which impinge upon its external surface, not to say, on the special organs of sense, only as it is moved by impressions which more immediately affect its internal parts. The former are, yet, as exclusively subjective as the latter. It is necessarily engrossed by each single impression, and moves only as it is thereby moved. It cannot yet mentally compare one impression with another. It can neither remember that which is past ; nor anticipate that which is future ; and cannot, therefore desire or endeavour to appropriate that which is absent. The vital spirit may be said, as yet, to have formed only very inadequate organs for its protection and expansion. Mind, strictly so called, is not yet evolved ; and the developement of life and organization may, perchance, be arrested, before it is realized.

In studying the infant, that is, speechless, unintelligent, involuntary, and strictly unconscious period of human life, we have, hitherto, considered only

three of the instinctive acts or functions, which form the natural basis of future consciousness and volition; viz. respiration, alimentary ingestion, and excretion.

It is apparent that the first is continuous with life itself; being only modified, or, at the most, but momentarily suspended, while the others are accomplished.

It is, however, manifest that instinctive muscular action is also included in these three primary functions; of which, indeed, it may be said to form a fundamental element, essential to every manifestation of life.

Its developement by virtue at once of intrinsic or instinctive susceptibility and extrinsic excitement, which we have thus exemplified, is the most fundamentally characteristic phenomenon of life; every manifestation of which is an exemplification of vital irritability; modified, developed, or made apparent, by extrinsic excitement, whether we call it muscular, or nervous, or with whatever form of organ it may be more especially associated.

At this early period of life, while external impressions are comparatively few, and while the mind is not developed for their perception, or appropriation, we may safely assume that no muscular or organic action occurs, which has not a more or less direct relation to the due performance of these three primary external functions, or of the more internal operations to which they are subservient; no exception being made of any partial movement, excited by some uncongenial impression from without; as, for instance, from excessive light or heat. But, as we have already

observed, the two functions of ingestion and excretion are attended with appropriate modifications of respiration.

There is, therefore, a condition or mode of this latter function, which is appropriate to the maintenance of the more internal operations of the vital organs, as it is undisturbed by either of these external efforts, or by the organic necessity and the extrinsic influences which excite them.

The internal organic operations to which we here allude are, moreover, equally modified with the respiration, in these new circumstances of vital quietude. It is, in fact, the condition of the internal organs, and their susceptibility of vital movement, which determines the character of the more external functions, by means of which the supply of vital pabulum or excitement, as well as the excretion of effête matter, is regulated: a fundamental relation between the interior and the exterior of the living body, of which the importance may already be anticipated. The direct supply of atmospheric air is constantly more or less essential to extra-uterine life; while its necessity is modified, or varied with every variety in the organic demand for other extrinsic excitement. There is, then, a condition, in which organic necessity or susceptibility is represented solely by respiratory movement, undisturbed by all other excitement. This is the condition of *sleep*, or of organic engrossment by one vital necessity and impression: a condition which must remain essentially the same throughout life, however it may be afterwards

diversified by the transition from the vigilance of multitudinous impressions and of mental activity. The infant sinks into it unconsciously, or, as is said, instinctively; because he is yet unconscious, not only of the vital necessity of atmospheric air, but of that of all other external excitants; which he will gradually learn to apply and remove voluntarily, though still, fundamentally, by virtue of the same organic and vital necessity, susceptibility, impulse, or instinct, by which he is, as yet, so simply moved.

Happy, indeed, for him, that his couch is, in every way, appropriately prepared by other hands than his own, and under the influence of organic and vital though social susceptibilities, which he is unconsciously adapted to develope! and may he never, in the arrogance of matured intellect and volition, forget this natural bond of obligation to his fellow-creatures; or neglect the natural promptings of his own heart, as it is moved by the distress of the orphan and the helpless who "have not where to lay their head!"

Opposed to the vital condition of sleep, is that of *vigilance*, or of the waking state, even in the yet unconscious infant. He sleeps, so long as the atmospheric air, which he breathes, suffices for the necessity of his organs: a time, which may vary, not merely with his actual susceptibility or condition, as thus undisturbed; but, as this may be modified by any accidental external influence, which may be adapted, so to speak, to alarm or arouse the organs from their composing absorption. In whatever part the more especial sentinel of life may be imagined to be placed,

the slow, regular rhythm of respiration seems to afford the only remaining indication that he is watching at his post. The movements of all the internal organs are composed to its monotonous melody; and it indicates the organic germ of that mental observation and volition, which is to be developed for the regulation of the waking state, with all its varied modes of relation with external nature. This rhythm, in fact, varies minutely with all these modes, incalculable as they are, and in whatever manner they may be conventionally generalized and classed. Its variety, in connexion with these modes, indicates the development of mind and will, by virtue of an intrinsic susceptibility for varied external impressions; while its monotony implies the temporary reduction of mind and will to their first rudimentary condition, by virtue of an intrinsic inaptitude, temporary as it may be, for such variety of excitement. The infant is, as yet, mentally unconscious, though it is evident that he is not organically insensible of sound, of visible, tangible, sapid or odorous impressions. These impressions are already influential in developing his organs and capacities, though being mentally unconscious of them he requires the tender care of others to regulate them according to his actual susceptibility. Of this, the vigilant nurse judges, by movements, analogous to those, which, afterwards, indicate the sense of pleasure or of pain, and consequent desire or aversion. These movements, instinctive as they are, are as naturally associated, in her mind, with these feelings, and especially, when the rhythm of

respiration is disturbed by a cry, as are, afterwards, the articulate sounds, which imply a greater or less approximation to distinct perception. She is, therefore, moved to the promotion of the developement of the organs of the infant, while she is, as she imagines, ministering only to its present comfort, or to the gratification of its senses. She is in fact, with tender affection, observing the subjective indications of its senses, with the advantage, happily, it may be, of her experience in such observation, and in the subordination to it of the objective use of her own senses. But woe betide the hapless infant that becomes the victim of the merely objective experience, whether of ignorant conceit or of mercenary selfishness!

Organic necessity or susceptibility has, in fact, no other intelligible language or expression than that which suggests the idea of sensible pleasure or pain, or of conscious desire or aversion. While, therefore, the tender and judicious nurse sedulously endeavours to remove all incongenial and distracting impressions, having first satisfied the yearning for ingestion and excretion, she further endeavors if necessary to distract the organic attention, if we may borrow the term from the language of mind, which has yet to be developed from these rudiments, by a gentle and uniform, rocking motion; the soothing effect of which, she aids by a restrained and monotonous "hush," the tender mockery of that somnolent respiration, which is the sweetest music to herself, and the most congenial to her infant. She thus effects, for him, that gradual and soothing abstraction from external excite-

ment, which he afterwards voluntarily accomplishes for himself, whenever he feels such excitement uncongenial; that is, under the impulse of the organic necessity for sleep; or, in other words, for the temporary suspension of consciousness, which is manifested by the successive annihilation of the wish and the capacity to attend to the different series of impressions to which he is exposed. But, as we have already observed, the sentinel of life is still at his post, to maintain the *dormant* mode of vital relation with the external world. And it is only by the continuance of this restricted mode of relation that the capacity is gradually renewed for the more varied relations of vigilance and consciousness; just as the capacity for each successive stage of life is developed by the maintenance of the relations of that which precedes it.

The renewal of the vigilant state is yet, therefore, as spontaneous, or independent of volition, as its suspension, or as the first developement of the capacity for extra-uterine life; though, as life advances, it may appear that volition may be, in some circumstances, almost as influential in renewing, as in maintaining vigilance; always, however, in subordination to the organic susceptibility of such renewal or maintenance; volition itself being a resultant of such susceptibility; and virtually nothing more than a perception that is literally an appropriation of that which is congenial, or in affinity with it.

And this leads us to the instinctive, or, as we may say, unconscious, or involuntary, that is, unpurposed, or un contemplated developement of *volition*, with *sensation and perception*.

The necessity for other extrinsic excitants than air and food is gradually developed, to the point of determining external movements to apply or appropriate them. The susceptibility of the organs of sense implies a general organic necessity for external excitement, or, as may be said, for excitement *ab externo*; and each impinging impression having undergone the superficial ordeal of organic, not to say sensible susceptibility or affinity, is rejected or appropriated, according to its actual, and perhaps momentary relation.

With respect to this relation, the morning and evening of life in general differ, as do the morning and evening of each day; freshness, novelty, and rarity of impression combining with developing susceptibility, to promote its congeniality; while, on the other hand, a waning and exhausting susceptibility tends to alienate external impressions almost indiscriminately.

Hitherto, there has been little capacity for variety or distinctness of impression: the atmospheric air respired, the food furnished by the maternal breast, the excretions to be expelled, the objects impinging on the surface of the body, have been comparatively uniform and diffused. The admission of light to the eye has been unconsciously regulated in accordance with the local, not to say the general susceptibility of the infantile organism, as it will continue to be adjusted to the multiplying requirements of life, however this unconscious adjustment may afterwards be supplemented by conscious volition: but the rays

of light have not yet been refracted by the comparatively vacant eye so as to make the beautiful impression of color, the fundamental germ of the idea of form; nor concentrated to a focus within it, so as to furnish another element of this idea; the vibrations of the air have scarcely been varied in the ear, beyond the monotony of the infant's drowsy respiration, or its cry, or the "hush" of the maternal voice.

The accurate adaptation of its external organs to any form of external body has yet been confined to the enclosure of the nipple in its pursing lips; the primitive rudiment and type of the general appreciation of form in after-life, by the nice apposition of our organs of touch or apprehension; the original and organic necessity of which, to ensure definite perception, is shown by the invincible tendency of the uneducated or unrestrained mind, to confirm thereby the evidence of sight; just as the infant similarly applies every thing seen to its lips; a native disposition and habit still extant in the kiss of heartfelt affection.

Though the organic movements of the infant have, as we have observed, already been naturally associated in the mind of the sympathizing observer, with consciousness; they scarcely attain the semblance of *volition*, until they are actuated by *visual* impressions, and are gradually diversified, as well as rendered more precise and definite, by the organic necessity and appliance of more varied and distinct impressions on all the senses. Organic necessity or congeniality, determined by the impinging of an external object or

impression on an organ of sense, initiates or prompts the organic movements adapted to its appropriation; but these movements are rendered definite and efficient only as the impressions made on the different organs are organically, not to say mentally, associated. It is only thus that their true relation of congeniality is defined; as may be observed, when, after many infantile experiments and efforts, an object is accurately perceived and appropriated, as it is closely grasped in the instinctively, and yet voluntarily and artistically, moulded hand: which at each step of its plastic efforts is reciprocally dependant on an appropriate optical adaptation, suggested by the successive tactual impressions, as well as by the luminous impressions themselves that may be assumed to have initiated the process. The first germ of conscious desire may be said to be planted in the infant mind, when the eye is first fixed by or upon the form of the mother's breast; but the distinct idea of volition is not realized until the infant has repeatedly grasped, not only this first and most congenial object in nature, but many others, similarly, though not equally attractive.

This idea of volition continues to grow and be perfected, with all the modes or faculties of mind; of which, it is the first distinct representative; of all the ideas of which, it may be said to form the original basis or type; just as the organic movements which express it, as they are initiated by virtue of the organic necessity or congeniality, are its first sensible image; without which, as impinging on more than one of the senses, it could not have been realized in

the mind. The idea of volition is, in fact, a necessary result of the sensible or perceived congruity of external impression with intrinsic susceptibility; or, in one word, of organic necessity or congeniality. The act of appropriating a congenial impression from without can be said to be voluntary, only as the congeniality is perceived by the mind; and this cannot be until the act has been involuntarily, or instinctively performed: that is, by virtue of an affinity between the susceptibility and the impression, which, though it is actually or momentarily essential, may be said still to be independent of its mental perception.

And however otherwise it may prove to be with the adult, this instinctive development is not yet obscured, in the infant, by the complex influences, exercised on organic susceptibility and its relations to external impressions, by the more developed and complicated associations of the mind; which may seem, in after-life, to render the will independent of organic susceptibility and extrinsic influence, as a necessary postulate of freedom and moral obligation. In other words, an act of volition, as for instance, that of apprehending or grasping a visible object, is, in the infant, in whom mental consciousness is just developing an unequivocally formal expression of a subjectively congenial relation between organic susceptibility and external influence, irrespective of the perception of the objective qualities or relations of the impressing cause.

The capacity for such objective perception, to which, as the most prominent in after-life, the idea of perception is too apt to be restricted, is not yet developed;

nor can it be realized, until the infant mind has become somewhat familiar with its subjective rudiments; that is, with the immediately congenial affinities between external things and itself. The organic mechanism by which it grasps an external object, or by which the various tentative movements are made that characterize its yet unsuccessful efforts to seize it, is associated in apprehensive sympathy and co-operation by impressions made, through appropriately sensible parts of the body, on more internal organs or parts, which reflect them back, as it were, on the immediate instruments of apprehension; the infant, meanwhile, being entirely engrossed, not with the external object as such, but with the mental desire itself, and utterly ignorant of all the parts of the mechanism which is cooperating for its developement and completion; an ignorance, indeed, only less than that of the most expert anatomist himself. The infant is not even conscious of the desire itself, as such. It is, in fact, at the moment, his whole mind, its sole manifestation, and mode of being; nor can it become a distinct idea, or mental form, or figment, as distinct from the mind itself, and from all other mental ideas or desires, until it has been repeatedly exhibited by the organic mechanism, which again reflects it back to the internal parts which have already received the impression from without, but from the object itself, whereas now they receive it from the apprehensive instruments themselves. Such a circuit has an external impression to go over, and such complicated mechanical arrangements has it to be subjected to, before it can be

recognized by the mind of man as such, and as congenial to his being! Nay, the mere repetition of this identical process does not suffice to develop the sense of self-existing mind, or of a percipient individuality, or of desire distinct from it, or of the extrinsic object of such desire. In one word mental consciousness is not yet developed, until many other organic combinations have been made, according to the same process, instituted by many different external impressions on different parts of the surface, not to say on different internal parts, as we may say of the brain; from which, again, they have to be multifariously reflected, and again multifariously exhibited, and that, amid many vexations, as well as ludicrous failures, by the ministering limbs; that all these exhibitions may be collated and compared, and that the idea of desire, of mind capable of entertaining it, and of extrinsic objects adapted to define all its thoughts and desires may be abstracted from the diversifying particulars. Nay, it is but barely possible to conceive that the mind could even realize the idea of desire, or even of its own individuality, if we could suppose that none but congenial impressions were made, however they might be otherwise diversified. Desire necessarily implies at least gradations of congenial adaptation; and by these gradations, all external impressions are linked in one series, as they minister to the infinite diversities of life and mind. And, as we have seen that volition or desire, as organically represented, is the natural intermedium between external impression and its mental recognition,

or is rather the express image at once of this recognition and of the vital or subjective congeniality of the impression; (a proposition, moreover, embodied in the general attitude of mental attention, which characterizes minutely every mode of consciousness); it is manifest that the mind can be strictly and accurately conscious of no external impression that is utterly alien or uncongenial to itself and the vital organism in which it is embodied; and that subjective and objective perception are thus inalienably associated in conscious life; so that, while they are at once mutually suggestive, and equally subject to momentary abstraction; the latter is strictly subordinate, as it is organically posterior in developement to the former, and also in the order in which it partially engrosses the mind. For some time, indeed, after the infant mind may be said to have realized the idea of extrinsic distinctness from itself, it is partially, if not entirely engrossed by the subjective or, as it were, intrinsic relations of things to itself. Even the qualities which are, at a later period, distinguished as really objective, are, by the infant mind, mainly, if not entirely, distinguished as modes of subjectively congenial relation to itself, or, in other words, as modes of the one quality of pleasing or agreeable. In other words, external things are perceived, coveted, and apprehended, mainly as they are felt to be directly congenial to the mind: a fact naturally resulting from the freshness of all impressions at this early period of life, and from the vivacious susceptibility which characterizes it, as the epoch of rapid organic developement; when

all vital influences, (in which all external impressions are included), are more manifestly efficient, and when, accordingly, all mental perceptions are the most remotely opposed to that comparative, and apparently complete indifference which characterizes the general reception of external impressions in later life, and which is essential to the objective discriminations of the natural philosopher and the mechanical artist, by whatever special ardor and zeal such indifference may be qualified in the promotion of their respective purposes, and in the objective inquisition of qualities that may prove to be subjectively congenial to such purposes ; representing, as these purposes do, the actual mental, not to say vital and organic susceptibility, just as such susceptibility is represented by the desires of the infant ; which, in the same manner, convert objective into subjective perception, though with less consciousness of the vital and mental process. The mutual relations of external things to each other, by which they are afterwards to be more accurately distinguished, or rather, more specially defined for adaptation to the various designs and combinations of life and art, have as yet no interest for the infant mind, engrossed, as it is, with each casual and passing impression only for the moment, and having little or no recollection of the past, or anticipation of the future. His sensations or perceptions, if so they may be called, are high generalities or abstractions, analogous to that which, even in after life, comprehends so many diversely congenial impressions under the one term sweet, an indication of the engrossing

influence on the human mind, not merely in infant, but in mature life, of gustatory impressions, and of the saccharine order of these more especially. (And, by the way, we have in the great number of particular impressions on all the senses, not to say of mental ideas, included under the general term of *sweet*, as contrasted with the negative fact that the opposite term *sour* is not thus used inclusively, an apt illustration of the proposition already announced, that the mind attends to or perceives only congenial impressions. It may fear and repudiate, but it cannot attentively, eagerly and affectionately perceive, or apprehend, or grasp that which is vitally or mentally alien to it: a truth real, not only in infancy, but at every succeeding period of life; and pregnant with the most important lessons as long as life continues.) This generalization, or simplification, of external impressions by the infant mind, and its exclusive attention to their subjective or vital reference, this yet incomplete perception of them merely as conditions of the mind itself, all is connected with the apparent fact that the infant is not yet strictly conscious of the use, or even of the differential existence, of his external organs of sense, invisible to him as they really are, as the lungs with which he breathes, but only, at the most, of the limbs, and more especially, of the hands, which serve as their immediate ministers, or rather, as the ministers of his will or mind. He sees the hands, and the hands only, as they are variously moved, and at last, exactly adapted to the forms which are congenial to him.

They have a visible distinctness from the aggregate living body which is not apparent to the infant himself in any other organ of sense. The numerous parts of which they consist not only facilitate their adaptation to external forms, but as they are unconsciously moved under the influence of any impression whatever, unavoidably impinge upon each other so as to make sensible, or as we may say, feeling or tactual impressions which, transmitted appropriately to the organic sensorium, arouse the other senses into unconscious sympathy. To say nothing of the possibility that, in this freshness and partiality of vital susceptibility, and external relation, the ear may receive sonorous impressions from the multitudinous movements of muscles and bones, the eye does evidently catch its appropriate impressions, and thus associates at least two senses in the perception of the moving fingers; an association which it is evident cannot so readily occur in favour of the other organs of sense. It is moreover, in the tips of the fingers more especially that the sense of feeling, comparatively vague and indefinite in the rest of the body, becomes acute and exact. The hands are, in fact, in every respect adapted to be the ready, exact and ultimate ministers of the will, defining precisely the congenial relations of the mind to external things. The history of the developement of human perception and volition thus manifestly commences with the association and sympathy of the organs of sense, as the history of their natural decline commences with the tardiness and inaptitude for such sympathy

and association, a change, moreover, which is indicated in the daily alternation of these conditions in the states of waking and sleep. And to whatever extent the senses may be substituted for each other, we have no instance of human, not to say animal consciousness, maintained only by one sense, not excepting even that of feeling. The capacity or sense of feeling may, however, be said to be the most fundamental form of animal sensibility, as it seems to be the most immediate representative of the sensibility which pervades the internal organs, and is the most generally diffused over the surface of the body; a natural fact which is represented in the general expression of sensation and even of all conscious modes, by the term more especially applied to this form of vital susceptibility. All impressions, moreover, which impinge on the body with a certain degree of force, even on the organs of special sense, or on the more internal parts, excite feeling rather than any other sense. It is, indeed, the only form of organic sensibility of which the voluntary exaggeration or definition, as in the act of attention, is directly visible to the actual subject of it. With whatever degree of intention or effort the will may be bent on the movements of the other organs of sense, it is only the visible movements of the limbs or the instruments of voluntary feeling that are directly and distinctly perceived by the mind. The proverbial forgetfulness of the features of the face straightway after they have been seen reflected in a glass, though we are constantly moving them and having them moved in volition and

emotion, utterly inapplicable as it would be to the directly visible instruments of apprehension, is a popularly intelligible indication of the use of sight in exhibiting to the mind the instruments of its own acts; and the use of the visual perception of such instruments when they are actually in operation in enabling the mind to recognize these acts or conditions themselves, however paradoxical such a use may appear, is significantly indicated in the proverbially dramatic metaphor of "holding up the mirror to nature."

The physiognomic expression of emotion and passion in others is the natural mirror in which we see vividly the images of those emotions and passions which move ourselves, or rather which we enact. Until we thus see their visibly organic representation, we are only sensible of them as essential modes of our own invisible and spiritual being, which, however they may distort our features, we can have no wish, in violation of the great law of sensitive nature, to change or repudiate. And it is doubtless in the maternal smile that the infant sees the first sensibly congenial representation of mental emotion; which is reproduced in its own features and in its budding mind by virtue of an organic affinity not unlike that which caused the impression of atmospheric air to excite its first inspiration: but we know how inadequate, even for the comprehension of the adult mind, is the expression of mental feeling by the features of the face, without visible and appropriate movements of the limbs, and especially of the hands. They are, in fact, generally the immediate means of executing the behests of the

mind, whether emotional or premeditated, and therefore naturally almost engross the attention of the observer. However we may look to the face of the angry man for the first indication of his passion, it is his blows that we endeavor to avoid or parry; and though air-sawing gesticulation without facial expression in an actor or declaimer is bad, distorted features with idiotically hanging arms is worse.

We may further consider in support of our present thesis, that no impression is so promptly perceived and attended to by the mind as one which is immediately consequent on an act of its own will, whether it be an impression entirely new, or one which is expected to be directly repeated; or, in other words, whether the will is immediately intent on the act which causes the impression, as e.g., when an infant first strikes a table, or throws anything to the floor, or on the impression itself, as when, e.g., it repeats these acts to gratify itself with the sound. The general efficacy of attention in quickening sensation and perception is well known; and it is aptly enough exemplified as the efficacy of volition, or of what may strictly be termed a voluntary condition of the mind, in the familiar difficulty of diverting from his intention, one who is earnestly or intently occupied with any impression whatever, whether casually or purposely brought before his mind, by any other impression which may be presented, except it be either decidedly more congenial than its preoccupied, or otherwise powerful; but this efficacy of attention is rendered especially and instructively apparent by exaggeration in the intense gratification which the most

unfortunate deaf mute derives from the sound which he himself elicits, e.g., by striking one body against another, though he can only with great difficulty, if at all, be made to hear the same or any other sound not thus elicited by himself: except, indeed, his willing attention be ingeniously and affectionately seduced to it by association with other impressions which attract it momentarily without monopolizing it. The unfortunate deaf-mute, in common with other young children, if not unduly restrained, is continually disposed to seek gratification from the visible, not to say otherwise sensible movements of his limbs, and more especially of his hands, and from their audible as well as visible sequents or effects. Visual impressions alone do not satisfy young children, any more than those of their seniors who have not learnt to repress the natural desire to associate others with them. They are not sufficient to quicken the inanimate stillness which is essentially alien to conscious life, and especially to the excitability of infant life. Motion, which is correlative with space or distance, as well as body, cannot, by means of sight only, be accurately appreciated even by the adult mind, with all the aid of its experienced associations. Hence the irrepressible desire of the young, not excepting even the deaf-mute, to elicit sonorous impressions, not only from surrounding objects, and especially from other living beings, but from their own frame. Nay, the deaf-mute, so erroneously supposed to be entirely insensible to them, is perhaps still more particularly excited by them than other young children; though

we may readily understand that they are specially exciting to children in general partly because they are naturally of more occasional occurrence than visual impressions. Be this, however, as it may, it is a common observation of the nursery that the pleasure afforded by any external impression, and especially when proceeding from a visible object, to the infant in whom the consciousness of external things and of his own being is beginning to appear, is evinced by all the natural expressions of vital activity and mental emotion; the only forms which volition can as yet assume, while external impressions are so little varied, and so novel, and while all the vital susceptibilities are in the spring-tide of their growth. They are, indeed, the most genuine and undisguised expressions of his will that he will ever be able to utter, however unconscious he may yet be of its causes and its consequences, and however incapable he may be of remembering or reflecting on it an instant after its organic expression has ceased with its external excitant. It is moreover, in a great measure, recognised as a nursery-truth that it is neither desirable nor easy to divert such an infant when he is thus wholesomely disposed and refreshed by food and sleep, from his eager desire of such impressions, and the exhibition of such hopeful excitement. He is, in fact, giving diversified exhibitions of life, or of vital and mental susceptibility, as it is congenially developed by extrinsic influence, without which his life and mind can only prove an example of post-natal abortion, far more culpable, if wantonly caused, than it would have been in the first stage of his developement, though less amenable to the law.

If you check these exhibitions of life rudely and unkindly, instead of ingeniously taking advantage of the peculiar defect of memory and reflexion which we have noticed as yet available, to change their objects, as you may find it necessary to do; if you impede this vital excitement, instead of judiciously and affectionately and unobtrusively directing and ministering to it; or if, while ignorantly accusing the infant rather than yourself of indomitable waywardness and obstinacy, you attempt to regulate its excitement by the standard of your own susceptibility, or, by the rules of any false art or superstitious observance, or, in one word, by any feeling different from a mother's tenderness and sympathy, you are virtually, however ignorantly, doing worse than closing the organic apertures by which enters the first and most fundamental pabulum of life. If you will check or distort the developements of life, do it effectually and readily at their source, and by one act deserve more gratitude for checking the developement of a miserable life, than you will either deserve or gain by promoting it.

Nay, rather pause before it is too late, and reflect for an instant on the hours in your own life in which even innocent passion and emotion are the simple forms of your own will, and joyously move your whole frame, while the complex calculations and anticipations of reason are in refreshing abeyance; and then turn to your laughter-loving and gesticulating infant, thus prepared to consider that these antick freaks are outbursts of the love of life, which you will now fondly hope he may be destined to lose only with his last

expiring sigh, and which at all events, you will now resolve he shall never lose through the ill-will or the ignorance of his natural guardian.

It is now in your power, almost in spite of adversity, to make this love of life break forth in the utterance of gratitude to you for its preservation, as well as for its first gift ; gratitude which may, perchance, be more deeply felt and more expressively uttered when you have ceased to be able to reciprocate his affection. He is eagerly familiarizing himself at once with himself, and with the external world, wide as it may probably seem to him even in his small chamber. But in this he will be baffled if you wantonly rebuke or check his ardent curiosity by withdrawing all but his perhaps unvaried food, if it may properly be so called, whether it be artificial or of so-called natural provision, while it is adapted to the prejudices of others rather than his susceptibility, and while he is hastily and forcibly crammed with it somewhat after the similitude of the unfortunate creature that you are preparing for your table. Nay it may be that you eke out your wanton determination to check the developement of his life and mind by forcing upon him an incessant motion that is utterly incompatible with any approximation to the voluntary use of his senses and his limbs, and even, as thus wantonly abused, with the proper rhythm of more internal organic movements. Nay you may, perhaps, crown your determination not to let your own purposes fail, whatever may betide the feelings of your infant, and with potent drug at once, and perchance for ever, steep his senses in forgetfulness. You would

put a bar to his philosophical study of nature, in which, amid all his antics and laughter-moving tricks, he is virtually, though unconsciously, engaged on the inductive principle which Bacon first formularized and endeavored exclusively to enforce on his seniors. Beware lest, by your ignorance and inattention, you stifle the induction of the two fundamental abstractions, generalizations, or axioms, to use the great author's term, without which neither Bacon, nor his followers, could have reasoned or observed at all. Your infant is, in fact, trying every object in succession, as it comes before him, by his senses also in succession, and is evidently pleased to use them according to their actual properties, and as by these they are adapted to give him a comfortable sense of existence. He handles them and grasps them, and looks keenly and eagerly at them, as he is so doing, though not as a microscopist with one blinking eye, but rather with two wide-open and staring, that he may determine their form, and their size, and their flexibility, and consistence. He is disposed even to crush them in the vice of his clenched hand; he even tries to break or disintegrate them, so as to see their interior. He throws them from him, perhaps that he may again clutch them, and if they sound, he leaps with new life as under the influence of a new impression, which he endeavours to reproduce as especially delightful, not to say harmonious, though really congenial. Or if, at this juncture, they break into fragments, he is pleased to find his impressions indefinitely multiplied, and that he is living among more pleasant things than he had hitherto dreamed of in his philosophy.

He even tries them, though not hungry, in the chemical test-glass of his mouth, and treats them for a while as he does the habitual source of his food, until, though well moistened with the liquid that flows at his eager bidding, he finds they are not congenial there. Wiser than many of his seniors, and perhaps unfortunately than he may himself ultimately become, he at once puts them away, though not disdainfully, as he still finds them congenial when otherwise used. He trusts implicitly in his own senses, and not yet in those of others; and if he has not yet learnt accurately to distinguish all the organs of sense from one another, he associates them, as yet, only as mutually suggestive of experiment, not as mutually confusing their individually appropriate susceptibilities. He will not readily poison himself, even though he may perchance get an enduring taste or smell of one of your nauseous draughts, if you will not keep him so deficient in food that he is ready to gulp any thing whatever to save his life, and if, moreover, you will keep out of his way things which art has extracted and concentrated for purposes otherwise legitimate but not adapted for the nursery,—of such things we may indeed say as the poet said of obscene speech and appearance, “*Nil dietu fœdum visûque hæc limina tangat intra quæ puer est.*” The same maxim will, indeed, apply to any thing on which it might be dangerous for an infant to make his first experiments. For this his guardians are accountable, not the senses and developing desires of the infant. Or, when this precaution has been used as far as is practicable, their direction and protection

is still due, not to thwart his impulses, and rudely check his efforts at vital and mental developement, but to encourage and foster them with the discretion which it is to be confidently anticipated he will, with such kindly and seasonable aid soon and safely gain. Meantime, be it observed that, on these conditions, he will not gain the unnatural habit which his seniors are too apt to contract, of grumbling at things as he finds them to be, and of wishing them to be otherwise according to his own conceits. He has, as yet, no favorite theory or hypothesis to support, or personal interest to serve, inducing him to observe or to report falsely. He does not curse the poor fleas because they don't become lobsters. He is not even stolid enough to boil them in that anticipation. He is not self-willed, nor obstinate; nor will he ever become so, except the disposition be of unequivocal inheritance less ancient than from our first progenitor; except, in one word, he be physically and mentally diseased in that direction, if you will freely allow him to experiment with his limbs and his senses, until he has become sufficiently developed and sufficiently familiar with this most primitive and most philosophical use of them. If he finds anything uncongenial, he will avoid troubling it again; but observe, he is as yet but a raw philosopher, and he may burn himself or blow himself up and others with him; or he may be crushed to death, or he may fall over a precipice, or finally, supposing the conditions already agreed upon to be neglected, he may be irremediably poisoned, while he is trying his experiments: and that is the reason

why he is left to your tender care, good mother; and I will not say that you are worthy of a better fate, if you allow him, through your wanton negligenee, to fall by such a eatastrophe. Though I earnestly warn you to let him have his fling, and not thwart him rudely, I as earnestly warn you not to indulge him either ignorantly or capriciously. You are no more required to leave him to make dangerous experiments now, than society will in after life, be rationally disposed to do either with gunpowder or with social or politieal schemes that may please him and the frantic mob that he leads, but will not stand the test of ealm and enlightened thought. Recollect that, in his ignorance, he may destroy you with himself, as he may afterwards destroy millions.

But, now, after all this, our infant has not yet gained a full and distinet sense or conseiousness either of his own existenee or of any thing separate from it. He has only been variously and eongenially excited by external influences, to move all his external organs in every manner in which they are as yet suseeptible of being moved eongenially by virtue of this fundamental relation between his organie or intrinsic suseeptibility and extrinsie influenee, and at the same time to promote the growth of his organs and the development of his vital and mental eapacities, with no more distinct conseiousness of what he is doing or of what he is, or even that he exists at all, than of the extrinsie influences that have moved him. He is like a zoophyte or a mollusc, with the advantage only of a greater variety of organs, of organic susceptibility, and of extrinsic

influences to develop it, including those of social life, the most important of all; advantages, however, which will become daily more apparent, and which will be farther developable as long as his race can be propagated. He has, indeed, already developed the germ of that generalization or abstraction which is soon to be so far matured that it will manifest itself by an organic expression which will give the crowning testimony that he not only knows himself, but the external world as distinct from him. He will, in fact, become able to articulate or join together in one all his capacities and feelings and acts and influences, and again analyze and separate them; though at the same time, he will be quite unconscious, as he may, perhaps, ever remain of the process by which he does it; just as he may use, in after-life, a complicated instrument or machine which another artist has made, but of which he only knows the practical use, not the construction. He has, in one word, developed the capacity to form an idea of a substratum of being characterized, qualified, or overlaid by all his capacities of motion and relation with an external world, consisting, in the same way as himself, of a substratum similarly overlaid with diversifying qualities. But the former substratum is invisible; while the latter is visible and tangible. It is solid, and he can grasp it, and now know that he does grasp it, and that he grasps it with the independent will of an invisible spirit, which can use the world without abusing it, or being abused by it; that is, in a mutual accordance and reciprocation of susceptibilities and qualities not unanalogous to some that

overlay his own being, patiently, and yet resolutely, with definite, and yet congenially modifiable purpose; a spirit which, in the midst of all its changes, and of all the changes which external things undergo, either with or without its intervention, always remains consciously the same, and which he feels to be as distinct from the very body which it inhabits, and the limbs and the organs of sense which it uses, as from the external world itself. In one word, he has developed already a sense of will, of which the first marked exhibition was the visible and tactual, not to say the muscular grasp of a solid object by his hand, under the influence specially of his sight, but also of the other senses, and by the combined and alternating processes of association and abstraction, which are to develop all his mental susceptibilities.

Now, the muscular movements, by which we first grasp a visible object, may be said to be an *imitation*, or pictorial representation, *in relief*, of the impression finally made, on the organic susceptibility, by the object grasped; an impression, really completed, only with the tactual adaptation of our organs of apprehension to its form, although an image may already have been projected on the plane of the retina. These movements are, moreover, an expression of a congenial relation between the susceptibility and the external object. But, such expression is completed, only with the impression itself; and though the germ of desire may be implanted in the mind; and though vague and inefficient muscular movements may be excited by preliminary impressions on the eye or other senses;

the desire itself is defined and completed, only as it is thus definitely expressed. The act of apprehension, therefore, is gradually moulded, or arranged and completed, as the susceptibility is evolved; and desire may be said to be developed by simultaneous gradations. Hence, it can be completed, and become a subject of definite consciousness, only after, at least, one complete performance of the act of apprehension. It is, therefore, a result of what may be called organic memory; and depends essentially on the tendency of the organic system to appropriation or mutual assimilation with the impressing object; or, in other words, to the *imitation* of such object. Organic assimilation or imitation is thus seen to be a broadly fundamental phenomenon of life, essential to the developement of its highest, as well as its lowest faculties.

But it is observable that we have at first in the act of apprehension an exemplification only of the disposition to mould the apprehending organs simply in accordance with the actual forms of external objects; whereas, organic assimilation, commonly so-called, and which commences in the more internal parts of the body, applies more especially to the reversal of this process, by moulding the substance or elements of external things to the fashion of the organs. We have thus, as consciousness is developing, an initiation of the process which true philosophy indicates to the artist as that by which alone he can succeed in his object, and to which the mind of man must always have recourse, however humiliating it may appear, when he wishes to accommodate external things to the

purposes of life. He must adapt his organs and inclinations to them; or, in other words, accurately observe their actual forms, qualities, or accidents, and following up this first organic indication, literally "stoop to conquer." Nor does the relation of assimilation or compromise between the organized body and external things fail soon to become reciprocal, even before the latter have, in any manner, gained access to the internal organs; though these seem more especially adapted for this conversion, as they are more immediately connected with its last results. We may observe even in the primitive act of apprehension, to which we have so often alluded as the type of volition, that the mind, if we may speak by anticipation, is not content with apprehending the congenial object, simply as it is, but endeavors in every possible way to change it. It may, perhaps, be more or less compressible, or otherwise variable in form, as may be discovered as the grasp is completed and continued, whether by the mere voluntary pressure, or less consciously even in after-life, by the moisture or warmth of the hand. Or, as we have seen, it may be applied in succession to all the organs of sense, especially that of taste.

The sight itself, perhaps the first to receive an impression from it, may possibly be used again to scrutinize it more closely, or in other words, see it as the light may be differently reflected from it. In one word, all the senses modify it in accordance with their peculiar susceptibility. The taste may even render it sweet from being comparatively insipid, and soft and moist, from being hard and dry. It may make that which

was previously insoluble and incoherent, pultaceous and soluble. The act of apprehension or of mere imitation, suggested as it was at first by a congenial impression, is thus soon made by the organs of sense an act of artistic conversion and of general congenialization or assimilation, to be completed either in the interior of the body, and add to its substance, or by the powers of the mind and promote its designs.

Thus, while the mind, still to speak by anticipation, is gradually gaining the idea of a world extrinsic of itself, it is also gaining the idea of power to adapt it to its own purpose or will; an idea which is thus early and deeply wrought into its very nature, and which haply it may retain throughout life as the mainspring of its conduct in spite of all apparent obstacles. It is the organic germ of all self-confidence, of all active faith, and of moral responsibility; in one word, of the sense of free-will which enables man to put forth all his energies for the accomplishment of his highest purposes. This sense of free-will may be said to be the general lever of life, thus early made to rest on the intuitive fulcrum of congenial relation with the external world, so that man feels an habitual confidence in his power to adapt external things to his wishes, while he is comparatively insensible of the discriminating capacity by which he so ingeniously and artistically averts all that would make them mutually incongruous.

It is only while resting on this fulcrum of mutual congeniality, as the fundamental element of his power, that man can retain the sense of an independent will, ready to accommodate itself to all the contingencies

of a life momentarily dependant on extrinsic influence; and it is only while he retains this sense that he can rationally, not to say magnanimously, confront these contingencies. And though we may assume that this sense of power to modify external things according to the type of our own susceptibility is gained mainly and directly from the use of the limbs and of the organs of sense embodied in them, the practised mind may observe the organic foundation of it in the other senses. The most cursory observation detects it in the movements of the eyelids and eyebrows, not to say of the pupil, or of the ball of the eye itself, while the anatomist or the optician might more strikingly exemplify it in the modification of the rays of light by the humors and other constituents in the interior of the eye. The tears, not only as they express grief or affection at their fountain, and dissolve the hearts of others into sympathy, but by their more physical effects, the nasal mucus, as it variously affects the impinging air and its diverse adjuncts, and the secretions of the mouth, that are ever ready at the call of appetite to add sweetness even to the sweet, nay, more remarkably still, to give this additional zest to the insipid, all and severally contribute their share in laying this organic foundation for this vitally important faculty of the developing mind, the sense of its adaptive power over external things. Even the external part of the organ of hearing, though comparatively rudimentary in man, is not without its effect in the modification of sonorous vibrations for our congenial perception, while, in lower animals, it is often greatly developed, and

quickly moveable, for the same, not to say more vital uses, at their will.

Nor do we need to consult the anatomist to demonstrate the minute reality of most exquisite carvings and excavations in the hardest part of the skull, admirably adapted, to collect into melodious and symbolically articulate combinations, the vibrations of the air which we make at will with the complex organs of voice and speech, not only for our individual use and enjoyment, but for the sympathetic emotion of our fellows; and which, without such aid, we not only might make in vain, but should be utterly unable to evoke. This power of the organs of sense over external things, as well as its reciprocation, is further evinced in the fact that they are no longer precisely the same either in physical condition or sensibility the instant after an external impression has impinged upon them; so that they cannot be affected precisely in the same manner by the same object for any continuance whatever. The skin reddens or pales, contracts or dilates, the eye brightens or dulls, the nostril, the mouth moistens. The organs of sense may be said, in a measure, to be made, as it were, extemporaneously and specially for each occasion and each kind of impression; so quick is the sentinel of life to control the relation with external nature, and so intent on asserting its voluntary not to say arbitrary maintenance. We may thus be said, instead of five senses to have thousands; each apparent organ being multifariously variable not only for the appropriate perception of the form or character of the impressing.

cause, but also for the purpose of modifying it in accordance with the organic susceptibility; except, indeed, we consider these two expressions as synonymous, as indicating necessarily correlative phenomena. The external organs of sense are, in one word, adapted to initiate the assimilation of external things to the living system, which is completed in the interior of the body. And this double organic process, as we have thus seen it exemplified in the organs of sense in general, indirectly amenable to the will as it is, seems to be an intermediate link between the same process, on the one hand, as it is carried on quite unconsciously, and in one sense involuntarily, in the interior of the body; and this process as it is observable, on the other hand, in the more immediate instruments of conscious will, not to say by the mind itself. We are, in fact, the most completely and directly conscious of voluntary power over the limbs, as we are more completely sensible at once of their adaptation to external things, and of the modification of these by them; while, on the other hand, it is only after some experience and observation, not only of our own acts and feelings, but also of those of others, that we become partially conscious of both these conditions of vital assimilation, and gain partial and indirect voluntary control over them as we have described them in the senses in general; and it is only laborious and scientific investigation that enables us to demonstrate the same double process, or rather both its conditions, in the internal organs; over which, moreover, we never gain direct voluntary power, any more than we

become directly conscious of them. But we have, what is still better for the purposes of life, complete voluntary power over these organs, and the double process of vital assimilation in them through the means of the voluntary control we are endowed with, and which we see developing in the infant, over the external organs of sense and the external impressions to which they are subjected. It behoves us, therefore, to beware of the vain philosophy that would pervert at once the developement and the wholesome sense of this power by thwarting as far as in it lies, the organic indications of congenial adaptation.

The developement of volition regarded as an imitative process, aptly suggests for our consideration the most complex and diversified of its acts, or another most comprehensive instinct of conscious life of which the primitive germ may be said to be the first cry of infancy; but which is variable and developable, equally with all the susceptibilities and desires of the social and the most highly civilized conditions of man. It is, in fact, the most general expression or indication of susceptibility and desire; and therefore, the most comprehensive medium of the mutual communication or assimilation of living beings. It is at once radically instinctive and comprehensively voluntary and artistical in its manifestation and developement. I allude to the equally instinctive and acquired faculty of *articulate speech or language*. Its first germ, as I have already observed, is the cry, or simple vocal modification of respiration, by which the new-born infant seems unconsciously to make its first

sensible appeal to the sympathy of mankind. This cry is an appropriate expression of organic susceptibility and requirement, elicited by external impression, the principle of which may, virtually, be traced throughout life, in all the varied forms by which human feeling, emotion, and thought are sensibly expressed. The voiceless smile, and the speechless laugh, the shriek of fear, and the exultation of joy, the dumb gesticulation of the yet literally infant mind, the monosyllabic rudiments of speech, and all its complex articulations, as well as its accompaniments of melody, have all the same basis of organic susceptibility and extrinsic impression, however enlarged and diversified it may be in both its aspects, and however sensibly voluntary may be the results. The earliest vocal expressions of organic susceptibility differ however from those which succeed, as the mind is gradually developed, in their entire or comparative independence of external impressions received by man from his fellows ; and articulate speech or language, on the other hand, may be said to exceed all other expressions of organic susceptibility, in its dependance on such social impressions, and consequently, in its adaptation at once to the development and expression of the susceptibilities and feelings of individual and social life. Speech or language is, indeed, the most varied and influential medium of human sympathy ; as it may be said to be the universal exponent of human susceptibilities and relations.

Now, the voluntary act of grasping an object, as suggested and perfected under the influence of a visible

or otherwise sensible impression, illustrates very graphically the essential dependence of volition in general on *imitation*; and we may further observe that, though intrinsic susceptibility or capacity is one of the necessary postulates of a voluntary act, such an act is not as it were, merely an *original*, or entirely independent production of the organs, or, in common language, of the mind. On the contrary, it may be said to be a *formal* representation or imitation of the external *object* which suggests it; or, in other words, as we have before seen, another mode of organic *assimilation*; the mental purpose which initiates a voluntary act being a subjective affection of the mind as it perceives its congenial relation to an external object, while the mental assimilation with it is expressed as distinctly by the instinct of language as the organic assimilation is by the mechanical act. The object to be grasped is, in fact, synonymous with the purpose to grasp it.

And this analogy may assist us to form some idea of the strength of the intrinsic impulse to initiate a voluntary act, (which, as voluntary and mental, we are apt to regard as comparatively indifferent or arbitrary), if we consider the vital necessity of organic assimilation, or nutrition; and that the mental assimilation or imitation, to which we have reduced volition, is as essential to the maintenance of conscious mind, as the organic assimilation, commonly recognized, is to that of the body; not to mention, that mental assimilation, or volition, is a necessary complement, in the conscious type of organized life, to the organic assimilation on which it may be said to be based.

And the parallel may be said to be complete ; inasmuch as the external object on which the volition has been moulded, may be said to be ingrafted into or incorporated with the mind, in the form and under the designation, of a mental *purpose* or motive, which, even as it relates to directly sensible material objects, is naturally conceived to arise and exist in the mind itself, while the external object or quality is simply recognized as such. Nay, some philosophers have so far disregarded the evidence of the common senses, as indicating the true relations of man, as to deny the reality of external things, or rather our perception of them ; regarding perception and volition as purely mental conditions ; not to mention Leibnitz's hypothesis of a pre-established harmony. And it must be confessed that, except we put faith in the ideas which naturally arise in the mind from the associated impressions made on the external senses, and which are really the immediate subjects of all consciousness, and the exciting causes of all volition, the familiar instance of muscular apprehension, with which we have endeavored to illustrate this subject ; not to mention the less striking illustration to be drawn from the picture projected on the retina, affords a strong plea at least for the assumption that, whatever may really exist out of us, we perceive nothing more than the changes in our own organs. Nay, the impressions received through the external senses are so modified by memory, association, imagination and abstraction, that they are apt to be utterly ignored by the human mind in general, as the extrinsic causes of ideas, feelings, and emotions,

which seem too refined for such an origin, if not even for that of the mind itself which immediately entertains them.

We need not, therefore, be surprized that Locke should overlook the pictorial image of voluntary apprehension, which we have endeavored to exhibit, not only to the corporeal, but also to the mental eye, and feel himself obliged to imagine the mind to gain the idea of its peculiar operations and faculties, by a mode of self-observation which is conceivable only as an abstraction.

But as our voluntary acts are first suggested, and as they are also perfected by the kind of imitation we have endeavored to describe, we may anticipate what observation confirms, that they will be especially under the influence of what is termed *sympathy*; and that they will be still more readily initiated and perfected by the impressions which we received from the voluntary acts of our fellow-creatures. These impressions are generically the most congenial to our susceptibility; and are, therefore, in general, the most powerful excitants, not only of our merely conscious or involuntary movements, but also of those which are strictly voluntary; and this is still more evinced when they are appropriate to our individual constitution and temporary conditions. This is, indeed, the universal law of sympathy, in relation to perception as well as volition; and which applies not only to the discrimination of social impressions, but also to the selection of those which we receive from other sources. For we have natural sympathies with inanimate things, as

well as with living beings; and the former are as necessary to our conscious existence as the latter, and not in reality more simply subjective, though mentally entertained only on our part.

Our life is sustained and developed equally by both these orders of sympathies, before we are conscious of them; for they represent our most fundamental organic susceptibilities of vital development or assimilation; though we become conscious of them, only as they are exalted into the form and faculty of perceptive and volitional assimilation or imitation. So indubitably, however, is man constituted as a gregarious or social being, and so deeply is the law of social life imprinted in his nature, that his mind, not only as it is growing, but when it is matured, is apt to be more or less engrossed by the suggestive and assimilating impressions made upon him by his fellow-creatures, to the comparative neglect of those which he is adapted to receive immediately from other objects with which he is contiguous. For some time after he is first ushered into the world, not to say before he is prepared for it, he may almost be said to be subject solely to socially-induced impressions; or, in other words, to external impressions, as they are more or less regulated by the good-will of his fellow-creatures. Nor is he ever, as his faculties are enlarged, emancipated from such impressions; but on the contrary, as he changes one series of them for others in succession, he becomes more profoundly and extensively affected by them; until, in fact, every other impression with which these are not more or

less intimately associated, fails to move or allure him. So deeply rooted, indeed, and so predominant is this social instinct in man's nature, that the avaricious or arrogant monstrosity of entire isolation from socially induced and regulated impression, perception, and volition, is very rarely realized; while, on the contrary, we too frequently witness the opposite extreme; at which the mind of man is habitually so engrossed by the suggestive impressions made upon him by his fellow-creatures, that it becomes almost entirely incapable of receiving influential impressions immediately or directly from other sources; so that not only with respect to volition and action, but even as concerns simple observation, which should be made by the unbiassed, though not the unaided use of the common senses, not to speak of opinion, judgment, or imagination, it is implicitly and slavishly led by the minds and actions of others. It is, however, only by a comprehensively patient subjection of the mind immediately to the impressions to be received from external nature in general, and indirectly as they may be received through the minds and wills and acts of others, that we can hope to accomplish the best developement of our faculties and susceptibilities: a proposition which ought to be borne in mind equally by children and parents, by pupils and teachers, by servants and masters, by subjects and rulers: for, thereby will the dispositions and faculties of all be reciprocally improved, at once in the way of excitement and restraint.

Now, the dependence of volition on the imitation of

our fellows, is illustrated and exemplified in no instance more forcibly than in the developement of articulate speech or language, not to say also of its graphic forms. Whatever we may imagine to be the capacity of an individual, or of the race in general, for the independent developement of this natural faculty, as a means of expressing thought, feeling, and emotion, or susceptibility in general, it must be limited by the developement of these; which is, from their nature, dependent on social influence: and it would be easy to conceive, even if we had no approximative illustration in the monosyllabic and scanty dialects of uncivilized tribes, as compared with the languages of civilization and science, how limited would be the articulate utterance, not to say, of a single individual, accustomed from infancy, to hear only the sounds of inanimate nature, and of speechless brutes or men, but even of such an individual, otherwise educated, but from the time of his obtaining mature age and the faculty of speech, restricted to a community composed entirely of human mutes. And the natural dependence of speech, for its developement, on the imitation of our fellows is more especially illustrated by the permanent effect upon it of such imitation, suggested, as that of the maternal smile itself, by impressions which are, beyond all others, congenial to our susceptibilities. It is, in fact, while life and its impressions are fresh and comparatively little varied, that we receive, by the ear and the eye, from a mother's voice, a mother's lips, and a mother's tongue, the impressions which the most completely engross our

mind and heart, and therefore leave the most indelible effects; to which we cling in after-life, not only with all the force of instinctive impulsion, but with the full purpose of will. And here, we have a crowning illustration of the natural method in which our voluntary acts are developed, in the fact that the most calculated and practised, and as we may say, artificial volitions of after-life are inadequate to obliterate the results of these first impressions and artless lessons of infancy. And whence arises the indelible character of these results, if not from the fact of their development by impressions the most congenially, not to say accurately, adapted to the actual susceptibility of the infant mind, and by voluntary efforts, not to say instinctive impulses, necessarily suggested by such adaptation? It is, in fact, in infancy, that we realize naturally, as we may, in some adults, by direct experiment, the full effect, on the animated frame, of congenial impressions. They are, indeed, not only powerful and dominant, but lasting.

Ambulatory *progression*, or *locomotion* may, without any great stretch of imagination, be said to be a form of apprehension; or a part of this act, essential to its completion. It may be said to be immediately initiated, or excited by the wish to apprehend an object too distant to be otherwise reached; so that it may be regarded as the initiatory part of the voluntary act of apprehending such an object. The desire which prompts it can arise, therefore, in the mind, only after the experience of inadequate apprehension without it. It is, then, under the influence of this desire

that the capacity of progression or locomotion is developed, as well as the limbs and other parts which are its natural instruments. On the other hand, as this capacity is developed and varied, is also developed and varied the desire which prompts it ; as might readily be exemplified in the various motives for walking, running, leaping, or other modes of progression, which may be respectively adapted to the actuating purpose of the mind. This actuating purpose is, however, in the infant, an actual desire always distinct, in its mind, from that of the mere locomotion itself ; the idea of this never being the directly initiating motive in the mind of the infant pupil, though it may influence the mind of the nurse who suggests and encourages its efforts.

She may, however, supply or provide the sensible cause of the impression adapted to excite the requisite desire ; and this may be either any object in general attractive to any of the senses, or more especially to the eye, or the act itself exhibited as an object of *imitation or emulation*. Indeed, we can scarcely imagine an infant being encouraged to walk before it has repeatedly, though unconsciously, received optical impressions from this act as exercised by adults or by other children ; the latter being, of course, the most likely to have made adequately efficient and durable impressions on the susceptibility of the infant. In all cases, the act is initiated by a visibly or otherwise sensibly congenial impression. The mind of the infant is not yet capable of locomotion under the influence of a remembered or prospectively sensible

object; or, in other words, of a desire so excited. The capacity of entertaining such a desire, and the capacity of executing the locomotion required for its gratification, seem to be developed simultaneously and by a reciprocal influence. While the capacity of locomotion is small and adequate only to the approximation of objects actually within view, the infant mind is too much engrossed with these, as they present themselves in succession, either to recollect, at the moment, any previous impression, or to anticipate any that may be forthcoming. A regular, sustained act of volition, whether of simple apprehension or of locomotion, is not possible in such circumstances. Accordingly, when the visible object is not immediately attainable, and another is not at once supplied to attract the attention, volition is suspended by the irritation of disappointment; the natural consequence of the double incapacity to sustain and complete the initiated act, so as to gratify the actual desire, and to fix the mind spontaneously on another object and act; a lesson which the infant has yet to learn. A kind nurse, therefore, encourages the first efforts of an infant to walk by presenting an attractive object near enough to be distinctly visible, and to be attainable by a few easy steps, or even by one forward movement beyond the reach of the extended arms. The attainment of this object immediately arrests the act of progression; and this is renewed only by the desire to apprehend another; which accordingly is presented in a similar manner. The powerful effect of this sort of manœuvre in determin-

ing the organically voluntary movements of the limbs in an appropriate direction is strikingly illustrated by the impressive anecdote of the ingeniously affectionate mother, who allured her infant from the edge of a precipice by presenting her breast for its enchantment. Nay, the effect of a sensible impression on the mother herself may be said to have been still more remarkable than on her infant: since it instantaneously concentrated on one purpose all the affections of her heart, the faculties of her mind, and the organic arrangements for voluntary action. So truly and completely does nature discover the ways of life; and so truly does she require for this purpose congenially appropriate impressions! It is, indeed, on the same principle that the efforts of an adult mind are developed to the utmost degree of power and accuracy only by sufficiently congenial and powerful motives, independently of a direct regard to the required movements themselves, which, on the other hand, are apt to be perverted, if not entirely prevented, by any attempt to concentrate the will on their direct execution; a difference in the relative effects of actual and prospective impressions not annihilated in the adult.

Accordingly, as the infant's capacities of vision and locomotion increase, remoter objects exercise a greater influence, and sustain the desire and the locomotive effort proportionally, because intervening objects lose more or less of their previous influence. And thus, as we may observe in after-life, not only the act of locomotion, but all other voluntary acts are regulated at once, though not equally, by actual and by prospec-

tive impressions, which respectively modify and restrain each other. And thus, once more, is strikingly illustrated, and especially in the act of voluntary progression, the direct and constant dependence of all voluntary action on appropriate external impressions, rather than the idea of the action itself; which is only the ultimate result of the volition. The desire of the prospectively sensible, or supposed attainable object, which first initiates the volition, or the appropriate act, as, *e. g.*, that of walking, on the one hand continually modifies the influence of other intervening impressions, which might, if unopposed, stop the act altogether; while, on the other hand, these intervening impressions tend, if not unduly neglected, to regulate the principal volition or act in subordination to the actual capacity for its accomplishment. Entire engrossment of the mind, not to say of the organic susceptibility, by one impression may, indeed, be said to be rarely, if ever, agreeable to the organic system, for more than a moment or instant of time, during which inspiration can be suspended, and an idea entertained without change. Hence we may anticipate the advantage of keeping the mind at once duly open to the influence of contingent impressions, and capable of appreciating and steadily pursuing the more defined and appropriate objects of life, not only in promoting the ultimate accomplishment of the latter, but the normal developement of all the faculties and susceptibilities, whether of mind or body. And hence, again, in relation to the act of progression, we may appreciate the well-known effects of attractive and varied

scenery, not to say of more minute and trivial things, of agreeable company and conversation, of one's own thoughts, the recollections of memory or the anticipations of imagination, the sounds of music, or even the vacant whistle that may supply the lack of all, in annihilating or diminishing the tedium and fatigue of a journey, and even bringing us unconsciously to the end of it; though it may be truly said that the act of progression was first initiated, and is throughout sustained, by the desire of attaining it, or even by the influence of some still remoter object; which may, ever and anon, reappear to the mind with renovated power, and assert its supremacy over all the intervening impressions, which may, on the contrary, in some feeble and less disciplined minds, or in some less favourable circumstances, be sufficient even entirely to overwhelm it. And thus, indeed, is not only the object of a day's journey, but too often, the purpose of the journey of life, defeated by casual and comparatively unimportant, though unduly influential impressions, which steal the mind entirely away from its purpose, instead of alluring it onwards to its accomplishment.

And this leads us to observe the importance of what may be considered as another capacity of the mind, which is thus developed, as all others, by virtue of the natural, or so-called instinctive relation between intrinsic susceptibility and extrinsic impression. I allude to the capacity of entertaining the idea of *prospective* impressions; i.e. of impressions succeeding each other in an order anticipated as congenial to the deve-

loping susceptibility: a capacity, which, thus instinctively developed, it is of the highest importance to cultivate, as necessary for the due regulation of all our voluntary acts; which would, otherwise, be apt to be too much influenced by actually sensible objects. The habit of being influenced or actuated by motives resulting from the diminution of the power of actually sensible objects by that of impressions in prospect is the natural foundation of the habit of *self-denial*, so-called; a name which it seems to have gained from the fact that the most interesting prospective impressions arise principally from our *social* relations; without which we should be almost entirely at the mercy, not only of selfish, but of present impressions. This habit is, indeed, only an extension of the habit or capacity of *transferring the attention* from one object to another; a capacity which is developed instinctively, or by virtue of the natural relation between intrinsic susceptibility and extrinsic impression, as this relation varies with the continuance of each impression, and with the successive impingement of objects, but which it is also important to cultivate as a direct purpose of the mind, as soon as the mind becomes capable of entertaining it as such, and of somewhat appreciating its general importance, as well as its special reasons. Meantime, it behoves the guardians of infancy to take intelligent advantage, as we have before observed, of the facility afforded, at this early period of life, for the kindly supply and substitution of developing impressions by the equal novelty and temporarily engrossing influence of all that are congenial. The

native curiosity of the infant, when it is once aroused, is the most powerful means of developing, unconsciously to itself, all its organs and faculties; but it is momentarily dependant on social aids and appliances; and as these are congenially or uncongenially administered, so, *cæteris paribus*, will be the results of good or evil bodily and mental disposition. The rude repression of infant curiosity and activity, whether from a foolish anxiety to anticipate the faculties of a later period of life, or from any more unequivocally selfish feeling, cannot fail to make a most injurious impression on the infant mind; and the error is in every way aggravated by wantonly imputing its untoward results to native and infant, rather than to acquired and adult, depravity.

In the first instinctive education of the senses, or, in other words, in the first stage of the developement and determination of the congruities of intrinsic susceptibility and extrinsic impression, as soon as the disposition appears to use the hands in the apprehension of visible objects, the engrossing motive of the infant mind, to speak by anticipation, and the centre of all association, may be said to be the satisfaction or gratification of the sense of *taste*; as congeniality with this sense indicates the most directly those qualities of objects which fit them for ingestion and nutrition; which is, at present, the engrossing, and at all times, a fundamental function of organized life. Accordingly, every object successfully grasped is at once, if possible, brought to the mouth; and the congeniality of any object with any of the other senses at once

suggests the idea of a similar congeniality with the sense of taste; and thus is gradually established the important capacity of *appropriately varied and independent alimentation*; a capacity which we shall have further to consider on another occasion. The unsophisticated and as yet partially developed mind of the infant is not, in fact, misled by any false or arbitrary association. The taste is, to the infant, at the period now alluded to, the ultimate criterion of congeniality, or the clue to all sensitive association; and as such, and as thus temporarily engrossing the attention, it serves to develop the capacity of accurately appreciating the congeniality of objects to the other senses, and, ultimately, of discriminating objects from each other by their qualities, not only as related to the animal system, or subjectively, but to each other, or objectively. In other words, as the taste repudiates an impression, the object making it is either at once entirely rejected, as occurs when the necessity of ingestion is momentarily urgent, though not so extreme as to render the gustatory susceptibility of no discriminatory avail; or, otherwise, it is thrown back upon the other senses in succession until its actual relations to the organic susceptibility are determined. It may, in fact, be congenial to the eye, or to the ear, or to the sense of touch, or even to that of smell, and may thus serve directly to minister to one or more of the animal requirements, or to promote the development of one or more of the organic actions, and so indirectly minister even to nutrition and growth. Being, indeed, congenial to other senses, and memory

not being yet greatly developed, the recollection of its temporary uncongeniality with the taste may be *nil*, or may be overcome by the perceived congeniality with the other senses; and thus, another trial with the taste may be either at the same or another time, suggested, and the mind may, thereby, gradually become conscious of the *varying susceptibility*, not only of the taste, but of the senses in general; and thus, moreover, the qualities of objects may come to be viewed simply as such objectively, and as abstracted from their immediate congeniality to any of our senses, or from their subjective reference. And it is by this process that the mind is first led to look *prospectively* to its susceptibilities, and ultimately to study external nature at once with sustained curiosity and philosophical indifference or impartiality. It would, in fact, be impossible for the human mind to observe the qualities of external things with this kind of indifference, if it were not led to it by this instinctively developed process of *abstraction*. All distinct perception, indeed, requires some degree of mental attention; which implies volition; which, again, as a mental condition, can be based only on the idea of actual or prospective congeniality or use, however remote or indirect that may be. As organic necessity or congeniality is the ultimate basis of the organic or instinctive appropriation or selection of impressions; so this mental idea of necessity, congeniality, or use, is the ultimate basis of that mental curiosity, or desire of knowledge, which, as it abstracts all immediately sensible congeniality or

use, excites to the investigation, not only of the superficial, but of all the more hidden facts, and the most recondite principles of nature; an investigation, moreover, adapted to call forth the utmost powers of the mind and body, not only in the way of simple observation or inquisition of things as they exist, but of voluntary or artificial combination or contrivance. For though organic necessity or congeniality in itself, or the mental consciousness of it, may first prompt the simple appropriation or perception of external qualities, it can scarcely lead even to the very first and rudest combinations of art, until this capacity of more abstract observation is somewhat developed. Artificial combination or segregation implies the more or less definite conception of a final end or purpose; and this conception is more or less prospective, or implies forethought; which, again, implies a more or less considerable diminution of the influence of present impressions, enabling the mind to regard them with comparative indifference, and, therefore, to study external qualities more especially as they are mutually related to each other, rather than to the organic susceptibility merely and directly.

Art, indeed, essentially implies *combination*, suggested by volition, or the sense of purpose; while conscious volition seems to be but little developed in the mere appropriation of a *single* impression; which may even be said to be inadequate to the developement of mental perception itself; the simplest mental perception being strictly the first rudiment of art, as it is the first rudiment of voluntary association of external

qualities, and has the direct effect of satisfying the most general and fundamental desire of the mind, or, in other words, of solving the most general and rudimentary problem of art: which is thus seen to be the conception of mental association of a sensible aggregate of accidents or qualities round an insensible substratum, or, in other words, of an external object distinct from, but, as thus conceived, literally congenial with the mind itself, and with the organized body which it actuates. This view of perception regarded as the natural rudiment of art, will come again under our notice when we consider other fundamental and universally pervading ideas, such, for instance, as those of space and time, which the developing mind of the infant gradually and unconsciously fabricates for the uses of life, under the influence of external and congenial impressions. Meantime, we observe, on the other hand, that artificial combination, commonly so-called, may be said to be distinctly realized only with the distinctly developed sense of volition, or purpose, or prospection; and as the natural elements of the first and rudest forms of artificial combination are furnished by the abstract observation of external things which we have alluded to, as it may be said to be instinctively inceptive, so the elements of its most refined and complex forms can be furnished only by this abstract observation, as it is highly developed in the philosophically inquisitive and disinterested student of nature. Thus, the rudest and most primitive arts which minister to the first wants of life, depend for their elements on the most general qualities and relations of external

things, which the mind almost unconsciously learns, when it first begins to observe them with a comparative degree of indifference to their sensible congeniality, though with a more or less eager curiosity concerning their mutual relations to each other, or, in other words, with a strong desire to determine their relation to its own susceptibilities considered as distinct from those susceptibilities which it ultimately comes to regard as merely corporeal or organic. I allude to such qualities as those of form and consistence, with all their various modifications, which, as they are comparatively superficial and patent to the senses, the mind, even of the infant, begins to appreciate as soon as it begins to compare one object with another, or in other words, as soon as it begins to regard them somewhat abstractedly from their sensible congeniality with its own organs, in other words, as objects of its desires understood somewhat as abstractedly mental. But, the knowledge of these general qualities of external things, thus gained, and the artificial combinations thus realized, serve for the suggestion of the more elaborately voluntary observations and combinations which are required for the invention of the most refined arts of civilized life, which are, in their perfection, based on the most abstract principles of science. And thus, the principle of organic congeniality and of extrinsic relation, originally applicable only within a very narrow compass, is gradually extended, with the faculties of mind, until it is commensurate with an ever-increasing circle of external nature; and until the germ of organic congeniality

appears to have scarcely an analogy to the mental congeniality into which it is developed.

It is thus apparent that the observation of the qualities of external things, as abstracted from their sensible congeniality, ministers to the natural development of art, and may be said to be the basis, at a very early period of life, of an instinctive disposition to form artificial combinations, as these are germinally represented in the earliest associations of perception ; by which the mind may be conceived as fashioning the objects of its contemplation out of the separate qualities which are successively presented to it as adapted for combination. We find, accordingly, that perception is seldom, if ever, entirely unmodified by the personal susceptibility or capacity of the percipient mind ; that different minds perceive the same objects more or less differently, or in different aspects ; and that the human mind in general is naturally disposed to use the faculty of association not only in the perception of the divers qualities of real objects, but also in the creation of imaginary concretes or forms, which can be reduced to the actual or possible realities of nature and of art only by reverting to the primitive and fundamental use of the associative faculty, as it is exemplified in dispassionate and accurate observation and experiment ; the only solid basis of science and art. The mind is, in fact, as naturally disposed to create or invent artificial combinations, as it is to perceive or investigate those which actually exist independently of its will or perception. The simplest perception, or observation,

being really subordinate to organic susceptibility and requirement, however obscure this subordination may become, is only the germinal basis of the subordination of the disposition for artificial combination to the more developed susceptibilities, requirements, and desires of the mind. The aggregates of qualities that exist, as is said, in nature, that is, independently of the will of any conscious being, and which are the first objects of his perception, if we assume him to be out of the reach of all artificial products, though they may suffice, as this simple perception itself, to his first wants and wishes, are not adequate to their satisfaction, when the mind and will are more developed. He, therefore, first *imagines* aggregates, whether of a substantial or a more subtile character, as he associates qualities which are virtually, or seem to his mind, at the time, whether he may be awake or asleep, to be mutually congruous; because the traces of perceived qualities are, in general, but faintly and imperfectly marked on the tablets of memory; from which, in the assumed circumstances, all, except the actually initiating impression, must necessarily be supplied; and, moreover, because this faintness and imperfection are apt to be more or less aggravated, as the qualities in question are thus made dependent, for their association, not on the general use of the external senses, nor, perhaps, even on the conscious use of one sense, but on some merely organic or internal impression, of which the mind can take no direct cognizance, and which can initiate a mental image or idea only by reason of its analogy with some

impression previously made on an external sense, and more or less distinctly recognized as such. And I purposely include, in this statement, the condition of sleep with that of vigilance, because the imaginary associations of dreams are as appropriate to the susceptibilities and requirements of the organic system, in certain conditions of sleep, as imaginary associations are to such susceptibilities and requirements during vigilance; whether as they serve to induce, prolong, and ultimately perfect the composure of sleep, or, on the other hand, to suspend it. Nay, it would be easy to shew, even by instances of recent date, that the spontaneous associations of dreams are often the most efficient means of meeting the requirements of the organic system, considered even as including all the susceptibilities of mind, not only as these requirements may be met in the actual condition of sleep, but also as they involve the satisfaction of the desires in the waking state; the perfect composure of sleep being unattainable while the organic system and the mind are vainly engrossed with such requirements and desires. In our own days, this has been remarkably exemplified, to mention only one instance, in the discovery of an atrocious murder, almost forgotten by all but the victim's mother; who, at length, completed the association which her mind and heart had long and repeatedly dwelt upon, by the vision of the solitary barn, in which her unfortunate daughter was actually inhumed by her betrayer. And those who, without disparagement of the authority of the most ancient and valuable records that

exist, can regard some parts of them as allegorical, may find, in the remarkable narrative of the creation of that counterpart of himself, without which man would, indeed, have been desolate, a picturesque representation, in the spirit of the times, of the associative power of the imagination, exalted, under the influence of the strongest and most comprehensive of human desires, entirely engrossing the organic and mental susceptibility, until man awoke to embrace the object which he had eagerly, but vainly sought in all the living creatures which had passed before his waking senses.

Man is, therefore, as might have been anticipated, the more readily disposed for associative imagination or creation, whether awake or asleep, when he is but inadequately supplied, through the external senses, with the vital impressions which he requires, and which exist, more or less prepared, independently of his will. Abnormal conditions and susceptibilities of the organs are, moreover, sooner or later, produced by such deficiency, which become, directly or indirectly, the cause, not only of abnormal or comparatively false impressions on the external senses, but, also, of similar impressions on the internal organs themselves; and this, not only in the state of sleep, but in that of comparative vigilance; not to speak of mental sanity or insanity, as unequivocally apparent. But, the impressions made on, or arising from the internal organs, however they may be transmitted by the nervous system, are of no avail in the production of mental ideas or images, except as they are asso-

ciated or compared with impressions made on the external senses; an association which is, indeed, only a counterpart of that which is necessary for the production of such ideas by external impressions themselves; inasmuch as these require, in order to produce such an effect, to be associated, not only with each other, but really, however unconsciously, with impressions made on and received from the internal organs; which latter impressions, moreover, may be said to be the intrinsic or instinctive source of all organic movement, as they are essentially necessary to the maintenance of the vital relation between intrinsic susceptibility and extrinsic impression. While, therefore, we see the simplest and most accurate perception to be, in a measure, an organic or mental figment, fashioned as a necessary counterpart to the organic susceptibility, and so the first natural rudiment of artificial combination, we may readily conceive how difficult it is, not only in disease, but in health, not only in sleep, but in vigilance, with certainty to secure the mutual congruity of all the elements, not only of our dreams, but of our waking thoughts; varying, as these elements do, not only with external qualities themselves, but with our intrinsic susceptibilities. Nay, we may easily anticipate that we may not always awake from the visions of sleep, to the accurate perception of the realities of nature, though, as they rise, by successive associations, to their climax, they may become intolerable to the organic system, and force, as it were, the use of the external senses for their temporary suspension or

alleviation, if not their entire correction, by the standard *formulae* of perception or truth. We find, then, as might be anticipated, that man *imagines* or dreams little, either awake or asleep, when his susceptibilities and desires are developed and satisfied by a due supply of physical and mental impressions from real concretes: and it is as he feels the vital necessity of real or possible concretes, that he endeavors to supply his wants and wishes by actual, artificial combinations; his wants or wishes being, thus, the natural parents, not only of his imaginative, as they are first of his simply perceptive, but also of his *practical* or manual associations, or in other words, of the primitive combinations and contrivances of art. These, accordingly, have, for their direct object, the modification of external influences, so that they may make, under the indication of the external senses, congenial and salutary, instead of painful and injurious impressions; a result which has, nevertheless, been promoted by the kind of abstract observation which we have endeavored to signalize as adapted immediately to divert the attention from it, so that the mind may accumulate, as in a store-room, assorted qualities and materials, to be ready for any required adaptation. Art, therefore, does not abrogate the fundamental law of vital development by sensible congeniality; on which the superstructure of its combinations is essentially based, notwithstanding the intervention of the pedestal of abstract observation, on which it rises to its highest achievements. The ultimate purpose of these combinations is, on the contrary, the definition of this

law of sensible congeniality to a degree of accuracy and extension, which merely unconscious organization could not attain, without the developement of mind and will.

Rude and primitive arts differ from the most refined only by the width of the base of organic, or sensible and mental congeniality, on which they ultimately rest, and the diametrical solidity of the pedestal of abstract observation and inquisition, on which they are raised above it. With respect to both alike, "necessity" may be said to be "the mother of (their) invention." But, though all the elements which concur in their production are, alike, of natural evolution, and though they are all related to the fundamental element of sensible congeniality, they differ essentially, with desire itself, as they regard this element immediately, or more or less prospectively. In other words, immediate and personal feelings and interests may promote invention and art, in minds solely to be moved thereby; and truly, such minds, as they may be of present use, may have their present reward: while, on the other hand, the abstractions of science, the results of which are vast and unpredicable, may so far engross minds of other habits, not to say, of a different order, that they shall seem to abrogate altogether the fundamental law of vital developement, as they identify themselves, not with their contemporary generation, but with generations of prophetic vision, which only such minds can foresee. And truly, they were often, of all men, the most miserable; if they were moved by the common accidents of life,

and had no hope beyond their influence. For it is true of the efforts of science and art, as it is of human effort in general, that, though they are fundamentally based on the susceptibility and desire of congenial impressions, as the means of maintaining life, they can realize their widest and highest developments only with immediate or comparative contempt of such impressions, and even of life itself. And the real work of such men is never appreciated while they live; and we can scarcely imagine that it will ever be otherwise: for, so long as there are gradations in the scale of conscious and intelligent beings, and so long as this scale continues to rise, there will always be some, who, not merely under a sudden and momentary impulse, but in the inveterate tenor of their habits, will surmount the common motives of their contemporaries, and will indicate the hidden germ of a still more elevated type of conscious, intelligent, and moral life, advancing man still nearer to the image after which he was created.

Now, as we have seen the act of grasping an external object to be an instance of volitional imitation by the hand, under the directing influence of the senses more especially of sight and feeling, so we may regard the act of articulate speech as an instance of volitional imitation by a much more complex series of organs, under the directing influence, primarily and fundamentally of the sense of hearing. In other words, the fundamental element of all the associations of articulate speech, or language, however remote it may

often appear, and however difficult or impossible it may be for the etymologist to discover it, is imitative sound, as it is uttered by the atmospheric air, principally in expiration, variously modified by appropriate organs sympathetically associated in concert with the organ or sense of hearing. The ear is, in fact, as momentarily required to develope and regulate articulate speech as sight and feeling are to complete and direct manual apprehension: and, in whatever light the etymologist may regard this subject, it is especially important to our purpose to consider the natural or instructive developement of all the associations of language, and notably of articulate speech, from imitative sound, to the utterance of which, in its associative, as well as its direct significance of mental emotion and perception, the infant mind is intrinsically disposed, though it is, perhaps, beyond all other vital phenomena, dependant on external impressions which only social life can supply. The natural foundation of the conscious and voluntary expression of mental emotion and thought by vocal and articulate speech is the fact, already adverted to, that every mode of such emotion and thought is organically related, at once as cause and effect, to an appropriate condition of respiration; every form of which is necessarily accompanied with an appropriate sound, be it more or less, made by the air as it is inspired or expired. The mind is unconscious of this sound, as it is of other organic predicaments and results, while it is occupied with the thought or emotion which occasions it; and we may observe, by anticipation, that this

habitual unconseiousness of the simple sound of respiration, momentarily varied as it is, is the natural type of that unaffected utterance, even of the most artistically polished language, which expresses the heart-felt sentiments of the well-educated speaker, who wishes to affect by his speech only as he would by his thoughts, or, as we may rather say, not by his speech, but by his thoughts, for which he has no other adequate utterance. The mind, then, becomes distinctly conscious of the sound of respiration only in particular circumstances; as, for instance, when this sound is very uncommon or otherwise remarkable in itself; as, e.g., in some forms of disease; or when other sensible impressions are withdrawn, and the attention is otherwise left vacant; as, for instance, when, under some unaccountable influence an individual utters a loud cry, which immediately fixes his attention as apparently groundless and absurd; there being no apparent cause for such an expression of emotion. The mind is, in fact, left vacant and unprotected, and is, so to speak, irresistibly seized by the senseless sound of its own organs.

Nay, this sound may so completely overpower it and subject it so entirely to the dominion of organic impulse, that it may have, for the moment, no means or power to feel or evince its own existence as mind, but by uttering another and perhaps louder, if not less rational expression of emotion from no more remote cause than this sound itself. A loud laugh may, in other words, succeed a loud cry, and equally indicate a vacant mind. Nor is this casual incident of human

life solitary or insignificant. It is, on the contrary, voluntarily reproduced, whether for good or evil, whenever the mind, while disinclined to sleep, is unable or indisposed to attend to more alien impressions than such as it easily sympathizes with either because they are the immediate product of its own organs, or of other minds similarly disposed. The boisterous laugh and the clamorous shout are alike re-echoed by the vacant-minded multitude, as these sounds are uttered from the throats of their leaders as the readiest means of moving them to their purpose.

With the sparkling glass or the foaming cup, unseasoned by wit or humor, the laugh goes round the social board, shaking the listless sides of all in unconscious organic sympathy. Nor, are more sacred scenes, I fear, at all times enacted with more really mind-and-heart-felt sympathy, or less histrionic semblance, however loud and wide the responsive aspiration ring. Nay, the human mind is too often in a more melancholy predicament than any of those we have yet signalized. The instances, indeed, which we have hitherto noticed, are virtually instances of only one mental condition; in which, to wit, the vacant and idle mind is readily drawn from its passionless state by a simple variation in the sonorous mode of respiration, whether by its own organs alone, or in sympathy with others, which readily supplants that which was approximating to the monotony of sleep. But the loudest and most varied simulations of mental emotion, as all other organic acts, or efforts of will, and as all external impressions, however generally exciting or seductive,

are utterly impotent to rescue the mind that is miserably enthralled by one remorseless impression of guilty fear or sorrow. This impression alone resounds in the echo of every breath, as it colors every vision, and embitters every taste. The organs of life play their sympathetic music in vain for such a miserably enslaved mind. It wills not, it perceives not, it feels not. It is stolid and motionless, or it moves in wild and unconscious agony, utterly cursing life which it cannot voluntarily maintain now that all its impressions and manifestations are hopelessly uncongenial. "It will not be comforted" by the comforts of life. It broods over one solitary and unvarying dream, which has at last but one form and expression in the organic monotony of expiring life. How different from this picture is that of the simple clown, whose untutored but innocent and happy mind, during his solitary walk homewards in the stillness and darkening twilight of evening, has no cause of fear but that which is naturally suggested to such a mind by the loneliness which is relieved only by the real and imaginary distortions of passing objects drawn across his path by the lengthening and obscuring shades. Cheering as is the thought of his peaceful home, as it frequently returns to his recollection, quickening and reinforcing his steps as it momentarily associates them in his renewed attention, wearied as he is with the toil and heat of the day, this hopeful thought, and this invigorating but otherwise uniformly repeated act are not enough, even with the natural apprehension described to boot, which, moreover, he may wish to avert his mind, to

prevent him from sinking into that monotone of breathing and of thought, which, if entirely undisturbed, might be inapt to maintain the rhythm of those associated movements by which he hopes soon to reach his home, and which perchance he may already have felt to be failing as a false or uneven step, not exactly adapted to the variations even of his accustomed path, has roused him to the momentary consciousness, not only of his tottering and uneven step, but of that soothing sound which had prematurely stolen on his mind just in one of those momentary intervals when the returning thought of home was about to reanimate his progressive efforts, a thought which he now momentarily regrets to find was converted into a delusive dream. Just as this stumbling step or tottering gait aroused him, he may have heard and imitatively or sympathetically responded to a cry of welcome to his home; and this waking sound of his organs, and thought of his mind, gives him the natural key-note to the simple melody, which as he sings or whistles, enlivens him with far more variety of impression, of sound, if not of thought, than he has hitherto been able to command, though he is listening only to the varied sounds which he voluntarily makes by those organs from the fascination of whose (involuntary and mind-lulling) monotony he is thus enabled to escape, until the appliances of home shall render it sweet as the music of the spheres. Nor let the learned and polite treat with contempt the natural artifice of this simple swain. Unlettered and untaught as he is, he maintains his consciousness voluntarily so long as he is at once able and willing.

Synopsis.

THE extrinsic postulates of the living system with the passive and active relations of living beings to each other and to their common Creator, in all its modes of health and disease, are naturally indicated by the susceptibility of the external senses to perceptibly pleasant or organically congenial impressions from their severally appropriate objects, as such impression are mutually modified ; and by the appetites or apparent motions that are suggested or excited and modified by their perception, remembrance, or incidence, independently, socially, or casually induced.

Notes.

NOTE 1—Page 10.

It would too far distract us from our present purpose, were we to endeavor to give the full meaning of this apology to those who are unacquainted with the history of Medicine, or who have never been behind the scenes.

Those who flatter themselves they have adopted, from among the variously partial systems which at present divide the attention and confidence of society, and which, I am free to say, have, by their aggregate influence, most seriously modified previously prevalent opinions, and practices, any one or more systems or methods to which they cling with an affection equal to the abomination which either their own experience or the well-colored pictures of their respective teachers have made them feel for that against which these teachers naturally begin their lessons by setting themselves in battle-array; those, I say, who are already sworn disciples of any new school, will be able somewhat to appreciate my forbearance, as I decline to imitate the prefatory pictures to which they have been accustomed. And I may here hint at a great principle of conduct unfortunately too commonly neglected. The errors not only of others, but also our own, are legitimately influential when they *suggest* the dispassionate investigation of truth; but if they are kept vividly before the mind, as it enters on this investigation, they inevitably buffet it, so that it passes unconsciously, thus engrossed, from one extreme to another, over the subtle and universally connecting ether, or medium of truth. And I may observe, moreover, that, as the natural course of error and evil is to destroy itself by gradual exaggeration or accumulation, the last extreme is necessarily worse than the first; and the

mind can revive to the perception of truth only from the utter death which these buffetings of error have inflicted upon it. And such, I may remark by the way, is the death on which medical art is at present verging, amidst the hundred-and-one exclusive methods which are spurting from its gluteal veins under the buffetings of Old Error, from which it cannot escape. But the "fulness of time" is rapidly approaching, though few may be able to foresee it, and though all may be pluming themselves on their special wisdom and generally increasing knowledge. Were not the subject too serious, I might revive the inimitable picture of Sterne; which would only require to be more deeply colored to adapt it to the present and forthcoming times. Suffice it to warn all "who have ears to hear," that while the stomach is protected from nauseous, if not poisonous potions, every accessible part of the human body is destined to become the victim of self-satisfied manual art, and well-aimed dexterity, to a degree that could not be realized in those rude ages when the sons of Esculapius dreamed only of healing the wounds of Homer's heroes. Shortsighted, fumbling empiricism, partial theory and method, local and temporary expediency, and mechanical manœuvre, are combining to swamp all the native energies of organized life.

But let the faithful lovers of truth be firmly persuaded that the issue will be, sooner or later, the final death-blow of irrationally empiric art, and the revival from its ashes, of the primæval and only genuine art of life which man gradually corrupted and lost under the influence of vice and disease. So deeply true it is that we can learn the value of what we possess only by its loss. It was, in fact, disease that first suggested the study of the law of life and health; and the radical error that has been committed is precisely similar to that we have attempted to signalize in this note. It was disease that first suggested to man the necessity of direct attention to the preservation of his health; and the contingency of disease must certainly be provided for in any adequate law of life; but it should be temporarily lost sight of in the immediate investigation of this law, and only again taken up when we wish to

determine how the law is modified to meet it. And it is just so that the true principles of Hygienic and Medical Art, when more or less developed, will enable us more satisfactorily to review the history of its errors, while we shall have escaped the fatal distraction from the truth which their influence on our imagination would otherwise have occasioned.

NOTE 2—Page 11.

The art of the *hatter* will readily exemplify these remarks. His *object or purpose* is to protect the human head and face from various uncongenial influences. He has, therefore, two subjects, or rather two groups of *subjects* for the exercise of his art; all of which, are very variable in their form or other qualities and positions. I allude of course to the head and face on the one hand, and heat, cold, and other influences on the other hand. Having well considered all these, with implicit submission to the actual facts, and without entertaining a wish to ignore or alter any of them, he looks anxiously and repeatedly through all the kingdoms of nature to find those *materials*, which are actually or potentially adapted for his purpose. I add potentially adapted, because it is thus evident that he may be obliged, in the required preparation and artistic adaptation of these raw materials to use many other materials, which may or may not have been already discovered and suitably manipulated by other artists.

And to all these, I repeat, he is content to conform his wishes, without ever thinking of imitating the ancient Procrustes with his bed, or the modern Sir Joshua Banks with his fleas. A long chapter might be written to unfold all the natural facts which our hatter might be gradually led to study to meet the possible extension of his purpose, the inconceivable variety of his subjects and of their dispositions and requirements. His primary object may even be lost sight of; and instead of being required to furnish a hat to *repel*, i.e., cold or heat, or a rude blow, his hat or whatever other name it may now assume, may

be fashioned to *attract*; and thus our latter may even be obliged to give place to another artist who is naturally adapted for attraction rather than repulsion, who has at command all the new materials required, and can better appreciate the taste of her fair patrons. But I forbear, lest I should have been anticipated in the Chapter on Hats referred to by Molière, but which I have not been able to find in my edition of Hippocrates.

NOTE 3—Page 12.

We have thus endeavored to unfold the philosophical meaning of Art, as opposed to its conventional or popular acceptation. It is *an aggregate of natural phenomena, including the intelligent volition*, which effects it; in which term, be it understood, merge all the mental faculties and dispositions of a conscious being: while, on the other hand, according to the popular acceptation, the volition of the artist is included only in the combination which he makes, and by which he forms an art of natural phenomena, otherwise more or less isolated from each other. The value of the philosophical definition will be better appreciated as we proceed in our projected demonstration of the law of life; as will also the truth of the axiom on which it depends, that the will, even in its highest developements, is a strictly natural phenomenon, when we come to unroll the volume of man's faculties gradually from the moment of his birth.

The definition, however, which we have now given is, like all other philosophical definitions, *abstract, or remote* from the ideas or apprehensions which immediately actuate the conduct of mankind. These are necessarily embodied in *popular*, or more generally available definitions; which I am free to say, are, at the least, as vitally important as the most abstract. A really philosophical mind pays due respect to both, though all minds may, probably, be said to be more especially addicted to the use of one or of the other respectively. The man who acts the most prominently in the business of social life, and

who must necessarily be the most honored by his fellows, must as necessarily be impelled immediately by popular ideas ; and he receives, when successful, the guerdon which he can best appreciate : but if he wishes to accomplish great, enduring, and ever-fruitful designs, he must accept the principles and formulæ of his efforts from the contemplative man, who voluntarily withdraws himself from the bustle of life, and as voluntarily resigns all its passing honors and emoluments, in order, not merely to expand his own inner being, but to inspect, as far as may be, the nucleus, the germ of all sensible being, that he may, to qualify the profound conception of Leibnitz, harmonize with its law of developement, not only his own mind and conduct, but the mind and conduct of untold generations, whose admiration he confidently foresees, not of himself, but of the eternal truth that he is exposing to their gaze.

I cannot forbear endeavoring to illustrate at once the nature and value of abstract ideas, or definitions, and their relation to those which are necessarily popular and immediately influential, by briefly but reverently referring to that grand climax of all abstract ideas, the idea, the ineffable sense of the being, the circumscribed and yet ubiquitous presence, and the unconditional, unlimited, or autocratic efficiency of the Great Invisible, which, however gained by Man, is the definition of the most recondite abstraction of the every-day popular idea, of being, intelligence, and efficiency, in which we really "live, and move, and have our being." Man cannot realize this magnificent abstraction except he habitually abstract or withdraw himself, not only from the ways and works of men, but even from the works of the Great Supreme Himself, with whom he seeks to commune alone in the chamber of his own soul. And yet it is from this difficult and remote abstraction only that man can derive the formula which is to be the abiding rule of his conduct as he aspires to raise himself to the perfection of his being in all its possible relations.

NOTE 4—Page 23.

I am here free to observe that, for many years, up to this very last (1859-60) revision of my manuscript, I used the word intuitive to express the meaning of Hippocrates, as synonymous with untaught, and with that supposed origin of ideas which Locke combated as signified by the term innate, but which he might, perhaps, have more aptly designated by the word intrinsic or automatic ; that is, developed in the inner mind itself, independently of any sensible or external impression. This is, certainly the fundamental idea of Nature's operations, as held by Hippocrates, and adopted by modern as well as ancient physicians, absurd as it really is, when considered as more than a convenient and strictly *natural* abstraction. But the word intuitive, however I may have got into a different habit, is used by modern metaphysicians, to characterize ideas assented to immediately on the evidence of sense, without any process of reasoning. I am not yet prepared to promise that I shall abandon my hitherto habitual use of this word, any more than I am disposed to subscribe to the abuse, which its general acceptance implies, of the popular notion of reason, as essentially distinct from perception, cognition, or knowledge. And I would observe, *in limine*, that, though we have endeavored to extend the idea of nature by amalgamating with it that of art, it is, as yet, much more easy to define art than nature. We shall, therefore, at present, leave each individual to circumscribe or extend the meaning of the word nature, wherever we may use it, as he may be best able to accommodate it, with or without special explanation, to the actual scope of our thoughts; the hope, however, that, before we finish our investigation, we may be all on a par in our conception of the true relations of nature and art ; which, with Shakespeare, we would marry together, "to have and to hold," in spite of all who would foment their quarrels, until, again, chaos "them do part." But we cannot rationally hope to accomplish this satisfactorily until we have cleared away all the ancient and modern misconceptions of nature, as well as of art.

To come then to the immediate purpose of this note :— these last words suggest the necessity of a *caveat* for the benefit of some who might otherwise injuriously mistake our meaning. You will not find, so far as I am aware, the word *nature*, not to speak of the notions which it imports, throughout the Old Testament Scriptures. Jehovah was eminent in all the thoughts of the Jewish mind, as the prime and only source of being and efficiency. Nature seems to have been repudiated by the descendants of Abraham, as one of the many subordinate powers of Pagan mythology ; while, on the contrary, she may be said to have been retained almost alone, by the philosophers of Greece and Rome, out of the host of idols that removed the supreme, or rather, the only God of the universe still farther from the minds of the vulgar than He would have been merely by their daily engrossment with the immediate objects of sense. Robert Boyle anxiously endeavored to wean the mind of the philosophers of modern times from this classical Idolatry of Nature. And he made this effort in the spirit of a truly Christian philosopher : for nothing more essentially characterizes the Christian scheme of doctrine than the utter depreciation of reliance on the old Nature of the Pagans, and, I may say, of the Sadducees, in favor of the New Nature generated in the second Adam, or parent of the human race, by the spirit of the one sole everlasting God. Christ is, thus, manifestly “God with us,” in our very midst, moving and actuating his true disciples, developing, maintaining, and regulating at once mind and body, in health and disease ; having utterly expelled the Old Nature of the Gentiles, and driven her down to the bottomless pit ; but not without having rid her of every vestige of her ancient beauty, and of every claim on the admiration of man, I say it with reverence, by changing her very sex. “He that hath ears to hear, let him hear.” God is now really with us : for the form of Man is removed, that it may not obscure the Invisible, but not insensible Spirit that it left behind ; and it is “God with us,” and in all our thoughts, and words, and acts, and He alone, that can truly develope all the Nature of Man, for its highest purposes ;

and it is only as man is thus regenerated and redeveloped, *born* again, to use the magnificent language of Scripture, that he can safely rely on his own Nature, which is now one, not with Satan, but with God. And thus, moreover, all mankind are one ; the regeneration of Man having accomplished the aspirations of Abraham, and the grand scheme of the Abrahamic covenant, by utterly destroying all but the one true God, and establishing his throne supreme in the universal heart of man.

NOTE 5—Page 39.

It seems necessary to observe here, that Helvetius taking for his basis the common and fundamental fact of life that it is universally characterized by a sensibility to the influence of external things, inferred, in opposition to the direct evidence of our common senses, to which I am now appealing, that all mankind are born equally susceptible of developement, or rather susceptible of equal developement, and that they differ only on account of the different circumstances and influences to which they are exposed. Now, this is quite true if we speak *generically*, or in kind, of the susceptibilities and faculties of all but the congenital idiot. Nay, it is even true that the defect in his generation and prenatal developement is the result, not merely of peculiar susceptibilities in his progenitors, but also of the peculiar influences to which they have been subjected. But the assertion is utterly repugnant to the common sense of mankind, if we apply it to the susceptibilities and faculties of man, considered as they differ severally in *degree* and mutual proportion. Nor could Helvetius have fallen into this error, if he had not regarded the sensibility of conscious life, or of that form of life which is specifically peculiar to man, however developable into all the peculiar faculties of human life, as utterly unchanged, by successive generations, from its primitive type. And, truly, if we could suppose, on the one hand, the formally or superficially *modifying* or *diversifying* influence of external things to have been

nullified, compatibly with their typically *developing* influence on the susceptibilities of life, or, in other words, with the generation of constitutional differences, such as we witness them, and on the other hand, that the susceptibilities of a finite and complex being, like man, necessarily subject to innumerable varying external influences, were restrained within such fixed limits, as to annihilate, not only the reality and sense of free-will, but, at the same time, the known variety of individual and physiognomical expression; if we could make these gratuitous and monstrous suppositions, then we might suppose, with Helvetius, and without abasing an abstract idea, as he manifestly did, that all the generations of men are, and ever will be, at birth, not only in a generically, but in an individually equal relation to the extrinsic excitants of life. But neither the true student of nature, nor the true philanthropist, is obliged to fabricate such premises, or to draw such inferences, in order to persuade men to contend strenuously for their rights, to improve their faculties by all the means and appliances within their power, and to develop those of their children from their earliest infancy, not only by precept, but by example and sedulous attention. The general equality of men and the common bond of brotherhood is a specific unity of susceptibility that is pregnant with an infinite individual variety, by virtue of which is made of the whole human race one omni-coherent and yet elastic mass, like the solid globe itself, whose atoms, it may be said, in reverent imitation of the highest authority, they disjoin not from each other, but only for a time stretch to their own length and breadth, soon again to revert to their ancient dimensions and mode of coherence; the bond of their union having been but formally changed, while it bore the names of vital or chemical affinity, on the one hand, and of gravitation on the other hand.

NOTE 6—Page 42.

Nor is this less really true of the most mechanical arts, than it is of those which are more directly applied to living beings; for their rules and methods can be based only on the

general qualities of the materials used ; while they require to be *minutely adapted and adjusted*, in practice, to the particular differences of the individual specimens on which the artist is actually working, or, to adapt the expression to the analogy of life, to their actual susceptibilities, as these are indicated, for example, by form, size, or density. Thus, the artist has, in each operation, to cut, and rasp, and polish, so as to adapt all to the general rule or *measure* that he has defined for any or all operations of an analogous kind. Hence, the comparative difficulty of inventing or arranging artistic machinery to supply the place of the intelligent workman, and the inevitable necessity for such a workman more or less to superintend the working of the most ingeniously devised machine. But it is at once apparent that the mechanical artist has an advantage, in several important respects, over the artist who manipulates living beings. In the first place ; though he cannot at all ignore their essential susceptibilities, he can make very free with his materials or subjects, and “skelp and scaud” them roughly enough without “hearing them squeal ;” though it may be already seriously questioned whether some ancient methods recently revived and out-Heroded are not rapidly making the vital manipulator think he can put himself on a par, in this respect, with his mechanical rivals ; forgetting that, while he is thus emulating them, he suffers inevitably in the comparison, because he alone is doing violence to indications which are the natural guardians at once of life and of the moderation and practical value of his art. “He that hath ears to hear, let him hear.” But, in the second place, the mechanical artist has a double advantage over the operator on life, inasmuch as he is guided, *in each operation*, by definite, sensible, measurable, and ponderable quantities or qualities ; and can, on that very account, frame more *exactly appreciable* and applicable rules for *all allied operations*. Whereas, on the other hand, the vital artist must for ever utterly fail in his vain attempts to frame such definite and precisely applicable rules or formulæ, inasmuch as he can neither measure nor weigh with any real accuracy, even in *general*, and much less

individually, the infinitely varied vital susceptibilities to which he is required to adapt the measures and weights, or in common language, the *doses* of his appliances; nay, it is consequently, and independently of other considerations, impossible for him to estimate accurately even the immediate object he would accomplish. It surely, therefore, behoves our vital artist to look deeply into the mechanism of organized life to discover, if possible, some peculiarly vital standard at once of quality and of weight and measure to which he may confidently adjust his appliances, and which may redeem his art from the lamentable vagueness and uncertainty which cannot but render it comparatively, if not entirely useless, not to say dangerous and even fatal.

NOTE 7—Page 64.

I feel reluctant to proceed in our investigation, without further commenting on the axiom of Hippocrates, that "Nature (or life) finds her own issues," profound and pregnant as it is, when thus interpreted as involving equally the two fundamental postulates of life, intrinsic susceptibility and extrinsic excitement. We may now safely adopt the abstract idea of Hippocrates, and say, that if life did not find its own issues and declare the extrinsic means which are required to promote them, it would not be known or distinguished as life. We do not then take the axiom on the authority of Hippocrates, deeply as we are indebted to him for its suggestion and for its practical illustration as an antidote to the errors of those who ignore it. Whether applied, indeed, to nature in animal or in vegetable life, it differs but formally from the principle on which the abstract substratum or substance of each inanimate thing finds its own issues, or, in other words, develops its qualities, as observed by the senses of conscious beings, only in mutual relation or influence with other things, whether animate or inanimate. Inanimate things, in fact, develop their own nature and only that, whether they are unassisted or aided by the will of conscious beings. Or, rather, they are

involved in one system of mutual developement, not only with their congeners, but with conscious beings, as these beings themselves are with each other. Nor has the mind of man been able to comprehend the bond of this mutual compact, except as expressed by one common sensibility differing rather formally than essentially, not to say, by one common will, thereon depending. It is true that conscious life is so essentially mobile, or unstable, and has so many ways of developing itself, and notably through its more especially characteristic faculties of sense and mind, that it is more readily conceived to be thus independent than inanimate matter ; which is apt to be considered as utterly inert, and to depend entirely, for its developement, on the will of conscious beings ; but not to allude to the stubborn adherence of the merest clod of, so-called, inert matter, to its typical mode of evolution and transformation, an adherence not to be overcome by any artificial contrivance whatever, the familiar phenomena of various kinds of fermentation and putrefaction, which the art of man is, perhaps, as often used in vain to prevent as to promote, are but a specimen of the multitudinous, not to say infinite, examples of what may be called the intrinsic mobility, and capacity of inanimate matter to evolve itself under, or to adopt Leibnitz's expression, in harmony with, appropriate extrinsic influence, the disposition or capacity to exercise which may be said to be equally intrinsic in its subjects. These phenomena, in fact, occur more or less independently of art or the will of man, by virtue of the mutual affinities and intrinsic susceptibilities, by which the combination and decomposition of inanimate matter are affected, and reduce to an utter absurdity the supposition that life, which is so much more variously endowed, and is, moreover, included in the compact of mutual influence by which all forms of being are evolved, is inadequate to the developement of its own susceptibilities, though its subjects are apt to arrogate to themselves the exclusive developement of the susceptibilities of inanimate matter. Nor can we get rid of this absurdity until we include in the expression of the phenomena of life and of nature, the results of

intelligence and will, or in other words, the combinations of art.

It will be impossible for us to understand the full value of the Hippocratic aphorism, as we have now completed its expression, until we have studied the natural developement of life more in detail; but I cannot refrain from adverting, in this place, to a remarkable phenomenon of our own times, which is professedly in direct contrast with the aphorism of Hippocrates, while, in reality, it may, if properly estimated, contribute materially to the demonstration of its truth. This great man used the assertion of the independent power of nature or life in evolving itself to counteract the pernicious errors of those whose empirical treatment of disease implied their utter repudiation of this power, while they substituted no reliable principle in its stead; and in doing this, as we have seen, he went into the opposite extreme of depreciating the value of extrinsic agency in supporting it. This natural power virtually constituted Hippocrates's curative principle; and he erred only in taking a one-sided view of it. Now, in our own times, we have seen the empirical uncertainty and fatally rash vigor of medical art, instead of professedly reverting, as on former occasions, to the Hippocratic reliance on nature, or the intrinsic power of life, culminate in an elaborate, but really impracticable system of empiricism, of which one undeniably necessary buttress, if not basis, is a reliance, not on the abstract intrinsic power of life, but on an equally abstract intrinsic incorporeal power, or spiritual essence, which is supposed to be concealed and restrained by the material form of each several medicament; but which is gradually emancipated and developed to its highest capacity of remedial efficiency by the artificial extension and emaciation, so to speak, of this material form to a degree which almost defies the Arabian symbols to represent it. And this intrinsic power thus supposed to be artificially developed and magnified by a process which all but minds thus abstracted from the use of their senses, must deem exactly adapted entirely to destroy its efficiency, is substituted for the cure of disease, not only in the

place of the grosser means of art, but of the intrinsic power of life ; while, in actual result, nature is abandoned by art, thus deluded, perhaps as unreservedly to her organic capacity of determining the issues of life, as she has ever before been since the art of medicine was invented. And it is remarkable that this signal result has been realized for a time by an abstract idea, alienated from the common sense of mankind only by its extreme abuse. It is a truth that material substances are adapted, naturally as well as artificially, to the various conditions and purposes of life, whether in health or disease, by the extension of their surface, which is known under the familiar terms, dilution, division, and mixture ; and it is a gross mistake, however common it may be, to speak of the good or evil effects of any vital agent without a reference to its appropriate modification in this manner. Such an agent may, in different circumstances, require to be so modified as to make various impressions on one or more of the senses so little analogous to each other that only the experienced and reflecting mind may be able to identify it ; as may be familiarly illustrated by the various modes of using common salt : which is the most generally so diluted as to be but vaguely recognized as desirable, or as habitually present, in our domestic compounds, only through its accidental omission. We do, in fact, habitually develope, or, in common language, increase the substantive efficiency and appropriateness to our own requirements of the common agents of life, by extending or diluting, or, we may even say, by destroying their *visibly*, or otherwise apparent material form. In doing this, indeed, we may be said to convert their immediately sensible or grosser properties into life-maintaining qualities, which we may thus be said artistically to develope, though we can appreciate them as such only by their vital results, whether in developing and maintaining the normal conditions of life, or in converting morbid conditions into them. Nay, in their ordinarily sensible forms and combinations, the general agents of life are often, not only insusceptible of vital assimilation or adaptation, but they more or less derange the processes of life, so as to induce disease

or death, and to make a general truth of the vulgar axiom, *the same thing kills and cures*. And of this salutary operation of human sense and will, we have the natural pattern, as in other examples, so especially in the dilute mixture of the atmospheric air which we breathe. Indeed it may be truly said that this voluntary process of dilution and mixture is *initiated* for us, in the general economy of nature, in respect to every thing that is offered to our senses ; and it may further even be made to appear that it is completed only as vital agents are diluted and mixed with the animal juices in orderly succession from their first application to the external senses, to their final assimilation with the animal tissues, and even to their excretion from the body.

But, surely, an extreme abuse of this vital principle of appropriate dilution is committed when, to support the eminently empirical system referred to, the curative efficiency of drugs is supposed to be developed and indefinitely increased as they are systematically diluted beyond the point at which they are appreciable by armed or unaided sense ! And that this system is the climax of empirical fallacy will abundantly appear if we consider that, on the alleged authority of experience and exact observation, it thus totally repudiates the direct use of the senses, whether objectively or subjectively, not only in the choice of remedial agents and in the determination of the absolute quantity to be used of each, but also in the limitation of their mixture and dilution, which is, at all times, more or less, not to say appropriately, necessary ; while it also entirely abrogates, so far as disease and remedial indication are concerned, the vital sympathy of the external organs of sense with the other parts of the living body.

And it may here be noticed that an advocate of this system, wishing, apparently, to give it a philosophical as well as an empirical basis, and, as we may suppose, unconsciously comparing the effect of systematic attenuation in developing the remedial power of his simples, to "the dreams we may have when we have shuffled off this mortal coil," urges in favor of his adopted method, the authority of a tract ascribed

to Galen, in which, in opposition to the alleged *dictum* of the Stoical philosophers of the time, it is elaborately demonstrated that the qualities of things in general (not of drugs merely) are incorporeal ; whereas, this demonstration would be at least equally available in favour of a similar inference concerning the developement of the capacity of food and other appliances for the maintenance of health, as well as for its restoration ; for which, however, our infinitesimalists will assuredly not vouch their experience. From this experience, on the contrary, they virtually learn two very different lessons regarding the use of the means of life in health and disease respectively ; while they challenge for themselves more especially the vital lesson that these two conditions are subject to the same organic laws ; a lesson which, however, they more especially ignore as they use the two first at the same time, the one for the support of life, as it were, in the abstract, the other to counteract its actually diseased condition !

